TEXTILE TECHNOLOGY DIGEST

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ABSTRACTS

FIBERS A

FIBERS TODAY. J. W. S. Hearle. Textile Mfr. 85: 127-130 (Mar. 1959). (1588)

In this first of a series of articles on fiber technology, the author describes the particular characteristics of a fiber, the different types of fibers, and the quantities and units used to describe fibers, e.g. fineness, length, mechanical, chemical, and electrical properties. Photomicrographs, graphs, tables, 5 refs.

WHAT MAKES A FIBER? PART 1. J. W. S. Hearle. Skinner's Silk & Rayon Record 33: 244, 246-247 (Mar. 1959). (1589)

The latest progress in the study of fibers and fiber structure theory is reviewed. Photomicrographs, diagrs.

STIFFNESS AND RESILIENCY OF WET AND DRY FIBERS AS A FUNCTION OF TEMPERATURE. G. M. Bryant and A. T. Walter (Union Carbide Chem. Co.). Textile Research J. 29: 211-219 (Mar. 1959). (1590)

This paper presents stiffness modulus and mechanical loss measurements on a number of fibers in air and in water, and interprets the results in terms of glass transition behavior. To the extent that features of the stiffness and resiliency vs temperature curves measured in air may be attributed solely to the influence of temperature, comparison of the wet and air-dry measurements permits the effects of temperature and water to be judged separately. Graphs, table, 11 refs.

PROPERTIES OF TEXTILE MATERIALS. PART 7. SOLUBILITY, VISCOSITY, AND MOLECULAR WEIGHT. H. S. B. Marshall and H. J. Palmer. J. Textile Inst. 50: P141-P147 (Mar. 1959). (1591)

The behavior of cellulose and cellulose derivatives, nylon, Terylene, acrylonitrile, silk, and wool in solvents is discussed, and the main methods used to determine the molecular weights of fibers are described. Tables, 14 refs.

Natural fibers A1

OCCURRENCE OF 4-O-METHYL-D-GLUCURONIC ACID IN JUTE HEMICELLULOSE. G. G. S. Dutton and I. H. Rogers (Univ. Brit. Columbia). (Letter to the editor). Textile Research J. 29: 285 (Mar. 1959). (1592)

RELATION BETWEEN CRYSTALLITE ORIENTATION AND TENSILE PROPERTIES OF MERCERIZED COTTON. T. Radhakrishnan, B. V. Iyer, G. S. Viswanathan, and H. Wakeham (Ahmedabad Textile Industry's Research Assoc.). Textile Research J. 29: 322-331 (Apr. 1959). (1593)

This study of tensile properties was undertaken with the object of minimizing the effect of factors which may contribute to intercotton differences and highlighting the effect on tensile properties of structural parameters like crystallinity and orientation. The fine structure of each of several varieties of raw cotton was changed in a controlled manner by means of mercerization under varying degrees of stretch. The word "mercerization" as used in this paper describes the sequence of swelling slack fibers with caustic soda, stretching them to a predetermined length, washing the fibers free of caustic soda while under stretch, and finally conditioning them to the laboratory atmosphere. The crystallite orientation, tensile strength, and extensibility of fibers prepared in this manner and the relationships between these properties are described. Photos, graphs, tables, 16 refs.

EFFECTS OF HEAT-DRYING ON THE PHYSICAL AND CHEMICAL PROPERTIES OF COTTONS. M. L. Nelson, F. R. Andrews, and J. N. Grant (So. Reg. Research Lab.). Textile Research J. 29: 260-269 (Mar. 1959). (1594)

The poor spinnability of some lots of gin-dried cotton has been attributed to overheating of the seed cotton. To determine what changes in the lint might be responsible, 2 series of gin-dried cottons and 1 series that was flash-heated in the laboratory were studied. Appropriate physical and chemical properties of the lint were measured, such as fiber length distribution, single-fiber and fiber-bundle strength and elongation, moisture regain, nepping potential, fiber friction, microscopical swelling, alkali swelling, wettability, fluorescence, copper number, carboxyl content, pH, infrared spectra, and wax properties. Limited spinning and weaving tests allowed yarn and fabric properties to be measured. Photomicrographs, graphs, tables, 11 refs.

INTERPRETATION OF THE PROPERTIES OF PROTEINS IN CONCENTRATED SALT SOLUTIONS. J. R. McPhee. J. Phys. Chem. 62, No. 11: 1455-1457 (1958). Through BCIRA 39: 1358 (1959). (1595)

The swelling of wool fibers in concentrated salt solutions and their sorption of water from these solutions have been studied.

EFFECTS OF GAMMA RADIATION ON COTTON. PART 3. BASE EXCHANGE PROPERTIES OF IRRADIATED COTTON. R. J. Demint and J. C. Arthur, Jr. (So. Reg. Research Lab.). Textile Research J. 29: 276-278 (Mar. 1959). (1596)

It has been demonstrated, using radioactive cations, that cottons subjected to gamma radiation have base exchange properties. The number of groups on the cottons exhibiting these properties increased with increasing radiation dosage. Salt bonds were probably the major linkages involved, since any cation could be replaced with another cation by varying relative concentrations. For parts 1 and 2, see abstr. 1539/58 and 1540/58. Graphs, 4 refs.

SECOND ORDER TRANSITION TEMPERATURE IN WOOL FIBERS IN THE POST-YIELD REGION. M. Feughelman, A. R. Haly, and B. J. Rigby (Wool Textile Research Labs., CSIRO, Australia). Textile Research J. 29: 311-313 (Apr. 1959). (1597)

A second order transition temperature exists for stretched wool fibers in water for the temperature range 60-70° C. This transition is indicated by the transformation in certain physical properties of the fibers such as birefringence and the ability to set permanently. Below the transition temperature a fiber under constant rate of loading passes from the yield to post-yield regions at a value of extension of about 30%, which is independent of the temperature. Above the transition temperature the value of the extension increases with increase of temperature. This variation of the extension at the turnover from the yield to post-yield region with change of temperature above a transition temperature and the constancy of the extension below were shown to hold for chemically and physically modified fibers. Graphs, tables, 9 refs.

TWO-PHASE STRUCTURE FOR KERATIN FIBERS. M. Feughelman (Wool Textile Research Labs., CSIRO). Textile Research J. 29: 223-228 (Mar. 1959). (1598)

A 2-phase structure is proposed for keratin fibers consisting of a water-absorbing matrix M, in which non-water-absorbing cylinders of phase C are embedded. The cylinders of phase C are parallel to the fiber direction. The main assumption made is that only the mechanical moduli of phase M are affected by moisture uptake as long as the fiber is not stretched. On this basis, using the longitudinal and radial swelling data available, quantitative relationships between the dry and wet Young's Moduli and rigidity moduli were obtained which agreed with experimental results. Further, other physical observations were shown to be compatible with this model. Diagrs, graphs, table, 23 refs.

HYDROGEN ⟶ DEUTERIUM EXCHANGE REACTION IN STRETCHED KERATIN. E. G. Bendit, M. Feughelman, R. D. B. Fraser, and T. P. MacRae (Wool Textile Research Labs., CSIRO). (Letter to the editor). Textile Research J. 29: 284-285 (Mar. 1959). (1599)

Graphs, 2 refs.

NOTE ON THE DEGRADATION OF JUTE CELLULOSE ON STORAGE. H. Chatterjee and A. K. Mazumdar (Indian Central Jute Comm.). (Letter to the editor). Textile Research J. 29: 282-283 (Mar. 1959). (1600)

Table, 13 refs.

Manmade fibers A2

NEW DEVELOPMENTS IN THE FIELD OF SYNTHETIC FIBERS. PART 3. H. Fourné and F. Fourné. Textil-Praxis 14, No. 1: 8-15 (1959). In German. Through BCIRA 39: 1024 (1959). (1601)

In conclusion of the previous article (abstr. 723/59), the authors review the production of polyacrylonitrile and of nylon 66 tire cord, and developments in staple fiber processing machinery. 95 refs.

PROCESSING MANMADE FIBERS ON THE SILK SYSTEM. Schappe Yarn Spinners Ltd. Man-Made Textiles 35: 36-37, 39 (Mar. 1959). (1602)

The sequence of operations used in the schappe spinning system is briefly described. Photos.

MANMADE FIBERS: THEIR PRODUCTION AND PROCESSING. A. J. Hall. Textile Merc. 140: 17-23 (suppl., Mar. 1959). (1603)

A review of recent progress and some pointers to future developments.

THEORY OF STRUCTURAL CRIMP IN VISCOSE STAPLE FIBERS. P. Weber. Textil-Praxis 14, No. 1: 62-68 (1959). In German. Through BCIRA 39: 1133 (1959). (1604)

An attempt is made to explain the true structural crimp in regenerated cellulose fibers by the existence of a difference in the contractability of the skin and the core. The presence of flaws in the skin, especially in high-denier spun-rayon types, may also cause a crimp but it is still doubtful whether this crimp can be regarded as a true structural crimp.

SURFACTANTS IN VISCOSE PROCESSING. W. J. Alexander and R. D. Kross (Rayonier Inc.). Ind. Eng. Chem. 51: 535-538 (Apr. 1959). (1605)

Chemical celluloses treated with selected surfactants were carried through the viscose process to show the beneficial functions surface active additives can perform in viscose processing. Important benefits which can be realized are reduction in power requirement to shred alkali cellulose, improved accessibility in xanthation with a resultant higher level of viscose filterability, prevention of spinnerette encrustation, and improved fatigue life of the resultant tire cord. Graphs, tables, 3 refs.

RAYON FLEXES ITS NEW MUSCLES. Chem. Week 84: 87-88, 92 (Mar. 21, 1959). (1606)

The new cross-linked varieties of viscose have new properties of strength, color, hand, and stretch resistance. A table lists producers, trade names, properties, and typical uses.

PROGRESS REPORT ON BRITISH NYLON. Man-Made Textiles 35: 67-82 (Mar. 1959). (1607)

Brief commentary on types of fabrics available, applications, and future prospects.

HEAT IN PROCESSING MANMADE FIBERS. H. B. Sturtevant, Jr. (E. I. du Pont de Nemours & Co.). Am. Textile Reptr. 73: 15, 33-35, 57-58 (Apr. 9, 1959). (1608)

The application of heat treatments for attaining freedom from shrinkage, dimensional stability, and fabric resiliency in manmade fibers is reviewed. Photos.

YARN PRODUCTION B

PROCESSING 1.0 DENIER ORLON ACRYLIC STAPLE ON THE COTTON SYSTEM. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Apr. 1959. 4 p. Bull. OR-98 (replaces Bull. OR-86). Free. (1609)

FILAMENT YARN CRIMPING METHODS OF TOMORROW. PART 1. Man-Made Textiles 35: 34-35, 51 (Mar. 1959). (1610)

The factors leading to the development of the false twist principle in yarn crimping are discussed, and progress in false twist crimping is reviewed. Diagr.

FILAMENT YARN CRIMPING METHODS OF TOMORROW. PART 2. Man-Made Textiles 35: 52-54 (Apr. 1959). (1611)

The development of the Agilon edge crimping process, Ban-Lon stuffer box technique, and the stabilized false twist crimping process are described in detail with patent references. Diagrs.

ALL-OUT WAR ON COTTON MILL WASTE. Textile World 109: 53-55 (Apr. 1959). (1612)

A waste control program which resulted in cutting controllable waste by 3.6% is described.

AUTOMATION IN THE WOOL TEXTILE INDUSTRY. L. Bellwood. Wool Rev. 32: 35 (Apr. 1959). (1613)

Part 9. Mending room, scouring and milling, detergents, and water.

WHAT'S ALL THIS ABOUT PREBLENDING? G. Guggenheim. Textile Bull. 85: 39-44 (Mar. 1959). (1614)

The reasons for blending cotton are examined, and the advantages of a preblending program in the cotton mill are cited. Diagr, graphs.

PROCESSING 420 NYLON-AND-COTTON BLENDS. Spartan Mills. Textile World 109: 59-61 (Apr. 1959). (1615)

Details of carding, spinning, slashing, and weaving 420 nylon/cotton blends at Spartan Mills are given.

PROCESSING ORLON ACRYLIC TOW ON THE TURBO STAPLER AND RELATED EQUIPMENT. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Apr. 1959. 19 p. Bull. OR-95. Free. (1616)

LOW SHRINKAGE YARNS OF ORLON. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Mar. 1959. 2 p. Bull. OR-96. Free. (1617)

Suggestions for avoiding variable shrinkage in spun yarns.

PROSPECTS IN SLIVER-TO-YARN SPINNING. F. Charnley. Textile Recorder 76: 58-59 (Apr. 1959). (1618)

The author discusses the development of sliver to yarn spinning with particular reference to the Saco-Lowell system. Photos, tables.

SLIVER TO YARN SPINNING. I. S. Rozenson and I. M. Bekeneva. Tekstil. Prom. 18, No. 9: 17-19 (1958). In Russian. Through BCIRA 39: 1239 (1959). (1619)

Experiments showed that, of the generally adopted systems of sliver-to-yarn spinning, preference is to be given to the three passages on the usual drawframe. The yarn thus produced is similar to that obtained on the spinning machine with a single-apron drawing system at a draft of 13-14. The favorable results obtained on the drawframe SVV made it possible to extend its use for producing high-count yarns (54; 65).

CONCERNING THE MECHANISMS OF FIBER AND YARN LUBRICATION. C. Schlatter, R. A. Olney, and B. N. Baer (Atlas Powder Co.). Textile Research J. 29: 200-210 (Mar. 1959). (1620)

The data presented here are the result of efforts aimed at defining the nature and scope of a systematic study of the manner in which lubricants affect the frictional behavior of textile materials, under a variety of conditions. Diagrs, graphs, table, 19 refs.

CALGON AS ADDITION TO SPINNING OILS. K. Schuster and A. Franck-Meinzolt. Textil-Praxis (English ed.) No. 1: 29-32 (Mar. 1959). (1621)

The addition of Calgon to spinning oils has the following advantages: (1) reduced static electrification and, consequently, increased tensile strength and greater regularity of the yarns; (2) increased removeability by washing of the mineral-oil lubricants; (3) elimination of iron traces which might promote catalytically the oxidation of textile oleins; (4) improved storability of the emulsions as a result of the stabilizing properties of Calgon N. Graph, tables.

Opening, picking, fiber preparation B1

PICKER WITH WINDING FRAME AND ELEVATED HOPPER FEED. O. Reinhardt. Textil-Praxis (English ed.) No. 1: 8-10 (Mar. 1959). (1622)

Features and operation of the Hergeth picker are described. Diagrs.

MECHANICAL OPENER FOR COTTON. G. D. Kushnarenko. Tekstil. Prom. 18, No. 9: 11-13 (1958). In Russian. Through BCIRA 39: 1231 (1959). (1623)

IMPROVED CLEANING OF COTTON FIBERS. G. A. Kirillov. Tekstil. Prom. 18, No. 8: 30-32 (1958). In Russian. Through BCIRA 39: 1035 (1959). (1624)

Several cleaning installations are described and their advantages enumerated.

NEW SOVIET WASTE CLEANING UNIT. I. I. Smirnov and K. I. Shenaeva. Tekstil. Prom. 18, No. 10: 25 (1958). In Russian. Through BCIRA 39: 1232 (1959). (1625)

The new UOA installation described consists of a feeding, a beating, and a discharging section and is claimed to be more effective than other cleaning installations, especially for dirty cottons (low-quality) and waste material.

Carding and combing B2

PROCESSING OF SYNTHETIC FIBERS ON COTTON FLAT CARDS. H. Ott. Textil-Praxis 14, No. 1: 23-26 (1959). In German. Through BCIRA 39: 1038 (1959). (1626)

Experiments on Trevira fibers (1.2 den/40) showed that satisfactory carding can be effected on cotton flat cards with normal wire clothing by installing a fancy roller. A detailed description is given of such a roller (Württembergische Textilmaschinenbau GmbH) and of the manner in which it is mounted and may be removed when changing over to cotton or (rayon) staple fiber processing.

INCREASED STRIPPING CAPACITY OF THE DOFFER COMB ON CARDING MACHINES. A. M. Romanova and N. F. Klotsvog. Tekstil. Prom. 18, No. 9: 20-22 (1958). In Russian. Through BCIRA 39: 1234 (1959). (1627)

Experiments on new and modernized machines showed that, by increasing the oscillation amplitude of the comb, the machines operate smoothly and give a normal quality product at a machine productivity of 8 kg/hr. On modernizing existing carding machines, the increased amplitude of the comb is obtained by increasing the eccentricity of the crank finger (either by fitting a new crank with a finger eccentricity of 11.5-12 mm or by moving the crank further away from the center).

Drawing and roving B3

ROLLER SLIP AND DRAFTING FORCE IN DRAWING FRAMES. W. F. Du Bois. Tex 17, No. 12: 1701-1710 (1958). In Dutch. Through BCIRA 39: 1040 (1959). (1628)

A draft > 1.00 in the middle drafting zone of a 4-over-4 drawframe requires a high load, P, on the second top roller to prevent its slipping and, consequently, sliver irregularity. The value P decreases with increasing number of drawing passages and with decreasing weight per unit length of the sliver, and is positively correlated with the fiber length. When applying a draft of 1.00 in the middle zone of a 4-over-4 drawframe, P is much lower than for a draft > 1.00 and no difficulties as regards roller slip may be expected.

CAUSE OF EXCEEDING THE UPPER AND LOWER TOLERANCE LIMITS ON THE DRAWFRAME. W. Wegener and H. Fourné. Forschungsber. Wirtsch. u. Verkehrsmin. Nordrhein-Westfalen No. 479: 1-47 (1957). In German. Through BCIRA 39: 1041 (1959). (1629)

Experiments were carried out to ascertain whether the count variations of the finishing drawframe sliver can be attributed to the irregularity of the picker lap and whether the count adjustment, occasionally necessary because of exceeding the tolerance limits on the finishing drawframe, is causally related to the lap irregularity. It was found that, in spite of doubling and drafting, the variations in the mean lap weight are distinctly reflected in the mean count variations of the individual can content. This proves that exceeding of the tolerance limit at the finisher drawframe is due to the long-period variations in the lap. Means are proposed which would reduce to a minimum (or even eliminate) the possibility of exceeding the tolerance limits.

HIGH DRAFT DRAWING FRAME. M. Roll. Industria Textila 9, No. 10: 376-383 (1958). In Rumanian (English summary). Through BCIRA 39: 1039 (1959). (1630)

The mechanism and use of new high draft drawing frames with 3 leather pressure roller pairs and 2 fluted metal pressure rollers are discussed, and the effects of various roller settings and weightings, total and partial drafts, speeds, etc., on the sliver irregularity and degree of fiber orientation are examined.

Spinning, winding, twisting B4

COMPARATIVE TESTS ON COTTON RING SPINDLES FOR THE PRODUCTION OF SOFT TWISTED YARNS. W. Frenzel and D. Miller. Faserforsch. u. Textiltech. 9, No. 11: 455-467 (1958). In German. Through BCIRA 39: 1042 (1959). (1631)

Cotton yarns with very low twist, prepared by using a ring spindle provided with a spindle head piece according to German Patent 826 853, were compared with yarns spun by means of a normal ring spindle on the same machine. It was found that both the distance between yarn guide and spindle head and the central arrangement of the guide eyelet are of decisive importance for the spinning process and the quality of the yarn. The yarn obtained does not differ appreciably from that produced with the normal spindle. The twist is more uniformly distributed; the low winding tension can be increased by using heavier travelers to obtain harder yarn packages. In spite of the low twist, the number of ends down is reduced to a minimum and it is possible to use spindle speeds of up to 12,300 a minute.

SOME OBSERVATIONS ON THE VIBRATION AND WHIRLING OF CONTINUOUSLY LOADED SPINDLES. D. Wroe and A. H. Nissan (Univ. of Leeds). Textile Research J. 29: 331-348 (Apr. 1959). (1632)

Formulas are derived for the frequency of flexural vibration of a vertical uniformly tapered circular shaft mounted at one end. The Rayleigh and Dunkerley methods are used and the results compared both with known results of exact analysis and with experiment. On the basis of an extension of Dunkerley's principle, a simple formula is derived for the effect of the mass of a textile package on the critical speed of a vertical shaft held at its base. Diagrs, graphs, tables, 14 refs.

SMALL-SIZE ELECTRONIC STROBOSCOPIC TACHOMETER EST-4. V. D. Khokhlov. Tekstil. Prom. 18, No. 10: 52 (1958). In Russian. Through BCIRA 39: 1250 (1959). (1633)

The device described is designed to measure the velocity of machine components (e.g. twisting spindles) without being in direct contact with them. It operates at a relative humidity of not more than 80% and an air temperature of up to +50° C over the range of 3,500-18,000 rev/min with an accuracy of ± 1%.

POWER CONSUMPTION IN COTTON SPINNING MILLS. E. Tittmann and H. Paul. Deut. Textiltech. 9, No. 1: 13-15, 21 (1959). In German. Through BCIRA 39: 1245 (1959). (1634)

Experiments showed that the use of high quality lubricants on speed frames and ring spinning machines considerably reduces power consumption, increases productivity, improves the quality of the product, and lengthens the life of the machine.

NEW TWISTING-DOUBLING MACHINE TK-2. Y. D. Ivanov and V. A. Trusova. Tekstil. Prom. 18, No. 8: 39-40 (1958). In Russian. Through BCIRA 39: 1045 (1959). (1635)

The experimental machine described is fitted with vertical self-lubricating twisting rings, permitting an increase of the linear traveler speed to 36-39 m/sec. The rings have a diameter of 76 mm and a height of 16.5 mm. The machine makes it possible to increase the productivity of natural silk by 15-20% and of manmade fibers by 20-25% (twist range 45-650 tpm, S and Z).

TOP ROLL RUBBER COVERS IN SPINNING. D. M. Karasev and L. D. Soldatkin. Tekstil. Prom. 18, No. 10: 50-51 (1958). In Russian. Through BCIRA 39: 1242 (1959). (1636)

Spinning machines fitted with rubber covered top rolls were found to cause 21-24% less yarn breakages than machines with polyvinyl chloride covers. This is due to the increased friction coefficient, reduced electrostatic charge, and greater durability of the cots made according to certain specifications.

SEQUENTIAL ANALYSIS: ITS APPLICATION IN SPINNING. A. Barella. Ingenieria Textil 25, No. 134: 372-385 (1958). In Spanish. Through BCIRA 39: 1044 (1959). (1637)

This form of statistical analysis is studied with special reference to its application to spinning defects.

AUTOMATIC BOBBIN DOFFER FOR SPINNING MACHINES. A. A. Dylevskii. Tekstil. Prom. 18, No. 10: 49-50 (1958). In Russian. Through BCIRA 39: 1244 (1959). (1638)

STATIC ELECTRICITY AS THE CAUSE OF ENDS DOWN. C. Dietz. Z. ges. Textil-Ind. 61, No. 3: 94 (1959). In German. Through BCIRA 39: 1251 (1959). (1639)

Causes and effects of static electricity during spinning and weaving are pointed out, and preventive or eliminating measures are briefly mentioned.

HOW TO QUICKLY DETERMINE SPINNING ROOM EFFICIENCY. M. Havinoviski. Textile Inds. 123: 106, 219 (Apr. 1959). (1640)

The application of random sampling to the determination of the overall efficiency of the spinning department is described.

EFFECTIVENESS OF BALLOON RESTRICTING RINGS. I. S. Shuleshko. Tekstil. Prom. 18, No. 9: 57-59 (1958). In Russian. Through BCIRA 39: 1240 (1959). (1641)

The use of balloon limiting rings on spinning machines with a ring rail lift of 203 mm and a ring diameter of 41.5 and 44.5 mm (or with a lift of 228 mm and ring diameter of 51 mm) ensures decreased yarn breakage frequency at increased spindle speeds, without increasing the loss of time in attending the machine.

END-BREAKAGES IN RING SPINNING. A. E. De Barr (Shirley Inst.). J. Textile Inst. 50: T284-T293 (Mar. 1959). (1642)

The problem of end-breakage in ring spinning is discussed in terms of a simple mathematical model. Absolute values of end-breakage rate cannot be calculated, but the treatment enables the relative importance of such factors as tension, regularity of yarn, angle of lead, etc., to be assessed. The results, some of which would be applicable to any process in which yarn breakages are involved, show that the most important factor affecting end-breakage rates is yarn regularity. Graphs, tables, 4 refs.

Yarns B5

FINE-COUNT, SPUN NYLON YARN. J. J. Reid (Brit. Nylon Spinners Ltd). Nylon Outlook 2, No. 5: 6-9 (Spring 1959). (1643)

The production of spun yarn from continuous tow involving the following steps is described: Seydel sliver to gilled sliver to intermediate and final roving to spun yarn. Photomicrographs, diagr.

INTRODUCTION TO TASLAN TEXTURED YARNS. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Apr. 1959. 6 p. Bull. X-101. Free. (1644)

The characteristics and uses of Taslan textured yarns, as well as general information on the process for making such yarns, are presented.

BULKED YARN TRADE INDEX. Skinner's Silk & Rayon Record 33: 137-149 (Feb. 1959). (1645)

Trade names, British manufacturers, yarn counts manufactured, and applications.

PRODUCTION OF YARNS FROM BLENDS OF MAN-MADE AND ANIMAL FIBERS. W. Hardacre (Courtaulds Ltd). J. Textile Inst. 50: P128-P140 (Mar. 1959). (1646)

Progress in the carding, combing, blending, drawing, and spinning of Fibro/wool and Courtelle/wool blends is reviewed. Graphs, tables, 2 refs.

BULKED YARN DEVELOPMENTS. P. Abbenheim. Skinner's Silk & Rayon Record 33: 232-236 (Mar. 1959). (1647)

Developments in the evolution of modified filament yarns in Britain and in continental Europe are reviewed. Photomicrographs, photos.

PREDICTION OF CORD PROPERTIES. W. S. Symes (Brit. Nylon Spinners Ltd). J. Textile Inst. 50: T241-T248 (Mar. 1959). (1648)

Formulas are developed to predict the breaking load of cord, extension at break, and contraction on heating from cord tex and from the properties of the constituent continuous-filament yarn. Theory and experiment agree well for the breaking load of nylon cord and its contraction on heating, but the agreement is poor for extension at break. The theory does not assume any particular form of cord geometry. Diagrs, graphs, 2 refs.

CHANGES IN YARN LENGTHS DURING TWISTING. FINDING A RELIABLE SIMPLE FORMULA FOR DETERMINING THE TWISTING-IN. J. Schneider. Z. ges. Textil-Ind. 61, No. 1: 10-14; No. 3: 79-81 (1959). In German. Through BCIRA 39: 1247 (1959). (1649)

Mathematical relationships are established between yarn twist and yarn count, on the one hand, and the twisting-in, on the other, and a formula is given, the accuracy of which ranges from $\pm$ 0.2-0.3% if the twisting-in values are greater than 0.5% and the twist/cm is not appreciably higher than 10. Other factors affecting the twisting-in value (traveler, spinning twist, material, doubling) are also discussed.

YARN DYED FOR WEAVING: SPINNING AND PREPARATION FAULTS. F. Whittaker (Robinson Bros. Ltd). Textile Weekly 59(1): 793-794, 796-797 (Mar. 27, 1959). (1650)

EFFECT OF REAGENTS ON THE STABILITY OF THE BOND BETWEEN VISCOSE TIRE CORD AND RUBBER. T. V. Ionova, R. V. Uzina, N. A. Bogomolova, E. M. Mogilevskii, and Z. A. Rogovin. Tekstil. Prom. 18, No. 8: 35-37 (1958). In Russian. Through BCIRA 39: 1047 (1959). (1651)

The effect of some brightening agents and spinning preparations on the stability of the viscose cord/rubber bond was studied by static and dynamic compression methods, and it was found that introduction of a carboxyl group into the molecule of the agent increases, and that of an amino group decreases, the stability of the yarn/rubber bond. This bond becomes stronger with increasing number of methylene groups in the molecule of the diamine used for treating the yarn. The stability of the bond also increases considerably by treating the yarn with dilute dihydric- and, in particular, trihydric-phenols and, to a lesser extent, by treating it with aqueous solutions of aliphatic polyhydric alcohols.

PROPERTIES AND PERFORMANCE OF HIGH TENACITY RAYON TIRE CORDS. E. D. Reeves (Courtaulds Ltd). Textile Merc. 140: 391-392 (Mar. 20, 1959). (1652)

Summary of lecture. Graphs.

EFFECT OF SINGLES AND DOUBLED YARN TWIST ON THE PROPERTIES OF COTTON YARNS. S. Ploch and K. Wolf. Deut. Textiltech. 9, No. 1: 17-21 (1959). In German. Through BCIRA 39: 1248 (1959). (1653)

Experiments are reported showing the properties of Soviet as compared with Egyptian cottons. By selecting suitable twists in the singles and doubled yarns, certain properties can be particularly emphasized.

FABRIC PRODUCTION C

Warping, slashing, yarn preparation C1

BLOWING OFF AND SUCKING OFF FLY AND DIRT ON WINDING MACHINES. V. A. Volkov and others. Tekstil. Prom. 18, No. 8: 59 (1958). In Russian. Through BCIRA 39: 1054 (1959). (1654)

HOLT WINDING MACHINERY. Thomas Holt Ltd. Textile Weekly 59(1): 782-784, 812 (Mar. 27, 1959). (1655)

Features of the Holt Q2 cone and cheese winder, traveling spindle RTA cone winder, and RTM superspeed rotary traverse cone winder are noted.

PRECISION CONING. D. W. Smith (Brit. Nylon Spinners Ltd). Nylon Outlook 2, No. 5: 4-5 (Spring 1959). (1656)

Features of the Schärer coning machines which make them particularly valuable for nylon yarn are noted. Photos.

NOTES ON MODERN WARPING, WITH SPECIAL REFERENCE TO THE DIRECT WARPER. Bull. Inst. Textile France No. 77: 113-121 (Oct. 1958). In French. Through BCIRA 39: 1266 (1959). (1657)

Problems concerning warping (thread tension, rope brakes, pneumatically-driven brakes, devices for reducing the time necessary for creeling the bobbins) are reviewed, and special reference is made to the improvements embodied in the direct or English warping machines (F. N. F., Cornard, Eichler, Schlafhorst, Crowther, Diederichs).

SOME PROBLEMS IN SIZING CONTROL. E. H. Jones (Shirley Inst.). Textile Weekly 59(1): 721-722 (Mar. 20, 1959). Textile Merc. 140: 389-390 (Mar. 20, 1959). (1658)

Devices developed by Shirley Institute for control of warp tension, warp dryness, and size application are briefly reviewed.

WARP SIZING AGENTS. PART 2. SUITABLE MANUFACTURED ORGANIC SUBSTANCES. E. J. Dupre (New Bedford Inst. Technol.). Fibres 20: 129-131 (Apr. 1959). (1659)

The use of acrylic acid resins, maleic acid resins, formaldehyde resins, and polyether waxes as warp sizing agents is discussed. 45 refs.

MODERN SIZING METHODS FOR COTTON YARNS. H. Abbelen. Textil-Praxis (English ed.) No. 1: 18-22 (Mar. 1959). (1660)

Reference is made to the use of water-soluble cellulose ethers, particularly Solvitose, and its advantages (stability of the size, softeners of the yarn, increased abrasion resistance, etc.). The higher cost of the size is compensated for by the saving in steam and time, owing to the possibility of increasing the speed of the sizing machine by 20-30%. Graphs, tables.

QUALITY IMPROVEMENT IN WARPING AND BEAMING CREELS. H. Eigenbertz. Z. ges. Textil-Ind. 61, No. 1: 15-19; No. 3: 82-86 (1959). In German. Through BCIRA 39: 1267 (1959). (1661)

Creels designed for feeding warping and beaming machines are reviewed, with reference to direct drawing of the yarn from the bobbins, rewinding of the warp yarn, drawing of the yarn from rotating and stationary warping bobbins, respectively, electric stop motions, dust removal, and yarn transport in the case of the creel designs mentioned.

Weaving C2

EIGHT-BAR LINKAGES FOR DRIVING THE LAY WITH LARGE DWELL. W. Ihme. Faserforsch. u. Textiltech. 9, No. 11: 468-475 (1958). In German. Through BCIRA 39: 1061 (1959). (1662)

In supplementation of the previous part (abstr. 1225/59), one of these mechanisms is examined in detail, and it is concluded that these linkages can be satisfactorily used to replace crank motions in modern looms.

WEAVING ACCESSORIES FROM PLASTICS. H. Emmrich. Textil-Praxis 14, No. 1: 52-56 (1959). In German. Through BCIRA 39: 1059 (1959). (1663)

Experiences with Perlon picking straps, pickers, shaft rollers, and other loom components made of plastics are reported.

LOOMFIXER AND HIS JOB. PART 4. W. Westbrook. Textile Bull. 85: 58 (Mar. 1959). (1664)

Pointers on shaft and bearing alignment are given.

STUDY OF DYNAMIC TENSIONS IN COTTON WARPS. M. Zilahi (Technischen Univ., Budapest). Periodica Polytechnica (Eng.) 1, No. 1: 3-41 (1957). In German. (1665)

Warp breaks due to excessive tensions on weak portions of yarn can be minimized, by proper determination of dynamic tensions, and corresponding adjustments made that will yield optimum weaving conditions. Photos, diagrs, graphs, 18 refs.

SELVAGE FORMATION IN WOOL FABRICS. H. Emmrich. Textil-Praxis (English ed.) No. 1: 12-17 (Mar. 1959). (1666)

Recommendations for the manufacture of selvages for various types of fabrics are given. Photos, diagrs.

INSTRUMENTS FOR MEASURING THE MAIN PARAMETERS OF FABRIC FORMATION. G. N. Zakharov and I. V. Kornev. Tekstil. Prom. 18, No. 10: 30-34 (1958). In Russian. Through BCIRA 39: 1278 (1959). (1667)

A description is given of instruments developed for measuring the warp tension at the back rail and of the fabric at the breast beam, the force of the lay blow, the tension of groups of warp threads, the weft tension, the reed movement, and the angular displacement and velocity of the yarn beam.

EFFECT OF WARP TENSION ADJUSTMENT ON WARP BREAKAGES AND THE PHYSICOMECHANICAL PROPERTIES OF FABRICS. P. W. Kurotschkin. Textil-Praxis 14, No. 1: 49-52 (1959). In German. Through BCIRA 39: 1062 (1959). (1668)

Experiments carried out on a linen fabric showed that, on adjusting the warp tension to 15 g/warp thread, the shrinkage in the warp direction was 19.23%. On increasing the tension, the shrinkage decreased and was 12.65% at 45 g and 7.95% at 80 g/thread. The warp tension adjustment also affected the tensile strength of the fabric; by increasing the warp tension, the fabric strength was found to increase in the warp and to decrease in the weft direction. For the linen fabric examined, the optimum warp tension adjustment was 45 g/thread.

WEAVING TENSIONS. W. C. Knight (Alabama Polytechnic Inst.). Textile Bull. 85: 54, 56-57 (Mar. 1959). (1669)

Increased warp tension causes decreased fabric width, increased sley and package, and increased yards per pound in gray fabrics. In a sanforized fabric, increased warp tension has an opposite effect in that width and yards per pound increase. In this article the author presents a detailed analysis of these and other results found in a warp tension study. Graphs.

POINTERS ON RUNNING HEAVY FILLING. Textile Inds. 123: 97-99 (Apr. 1959). (1670)

PREVENTING SELVAGE FAULTS IN WEAVING. Textile Recorder 76: 60-61, 63 (Apr. 1959). (1671)

Some typical causes of selvage defects produced by faulty loom settings are described. Photos.

HOW TO MAKE FANCY TERRY. PART 1. T. Hargreaves. Textile Inds. 123: 150-152 (Apr. 1959). (1672)

Points to be considered in the choice of jacquards for combination with the terry loom are noted.

Knitting C3

NEW APPROACH TO IMPROVE AND STANDARDIZE WEFT KNITTED FABRIC NOTATIONS (R.G.T. METHOD). K. Mamnicki. Hosiery Trade J. 66: 90-92, 95 (Apr. 1959). (1673)

The R.G.T. (rappresentazione grafica Tremelloni) system of notation for weft fabrics developed by A. Tremolloni is described and illustrated. Diagrs.

DIRECT SEAMING METHOD FOR FF HOSE. Hosiery Trade J. 66: 76-77 (Apr. 1959). (1674)

A comparison of the direct seaming method, evolved by the National Hosiery Manufacturers' Federation, with the cup seaming method indicates that production figures of 280 dozen/week with the former are possible as compared with 125 dozen/week with the latter. Photos.

PRODUCTION OF CRIMPED NYLON SOCKS. E. A. Stone (Brit. Nylon Spinners Ltd). Nylon Outlook 2, No. 5: 28-33 (Spring 1959). (1675)

Technical considerations facing the manufacturer are discussed. Photos, tables.

QUALITY CONTROL MEASURES FOR SEAMLESS HOSIERY. J. C. Cobert. Textile Inds. 123: 121-122, 142-143 (Apr. 1959). (1676)

Methods for reducing picks and pulls, preventing creeping in boarding, and length control are outlined.

LOMBARDI WRAP KNITTING MACHINE. Scott & Williams, Inc. Modern Textiles Mag. 40: 62, 66 (Apr. 1959). (1677)

The Lombardi pattern wrap circular knitting machine represents a radical departure from existing techniques for incorporating both sculptured and/or smooth design effects in jersey fabric. The warp mechanism enables the introduction of a wrap yarn to one or to a multiplicity of needles, in excess of 30, from a single yarn source. Photos.

MODERN TECHNIQUES IN MACHINERY MAINTENANCE. PART 2. COTTON'S TYPE STRAIGHT BAR MACHINES. J. B. Lancashire and W. O'Brien. Hosiery Times 32: 69-73 (Apr. 1959). (1678)

Diagrs.

MULTIPLE ASSIGNMENTS IN FF. W. B. Snow. Textile Inds. 123: 123, 143 (Apr. 1959). (1679)

Advantages and problems arising from multiple machine assignments with full fashioned hosiery machines are reviewed.

Fabrics C4

TACRYL, AN ACRYLIC FIBER FOR PAPERMAKERS FELTS. O. Sundén. Tappi 41, No. 11: 173A-177A (1958). Through BCIRA 39: 1284 (1959). (1680)

The properties of Tacryl which commend it as a material for the production of papermakers felts are discussed and compared with the properties of other fibers used for the same purpose. Practical tests with Tacryl felts have given very favorable results.

POINTERS FOR CORRECTING FABRIC DESIGNS. D. L. Garrett. Textile World 109: 64-65 (Apr. 1959). (1681)

Ways in which the weave-room supervisor can correct faulty patterns so that they will weave better. Diagrs.

DESIGN IN WOVEN STRUCTURE. PART 73. SELF-STITCHED DOUBLE CLOTHS. D. C. Snowden. Wool Rev. 32: 41-42 (Mar. 1959). (1682)

DESIGN IN WOVEN STRUCTURE. PART 74. SELF-STITCHED DOUBLE CLOTHS. D. C. Snowden. Wool Rev. 32: 32-33 (Apr. 1959). (1683)

CORE SPUN YARNS IN FABRICS. A. Johnson. Textile Mfr. 85: 116-117 (Mar. 1959). (1684)

Examples are given to demonstrate the scope of shrinkable core spun yarns in fabric design.

WOVEN FABRIC STRUCTURE: FABRIC STYLING ON THE BASIS OF HOPSACK WEAVES. D. C. Snowden. Man-Made Textiles 35: 43 (Mar. 1959); 51 (Apr. 1959). (1685)

FLOXAN FOR BLANKETS. W. Bandel and L. Heinig. Textil-Praxis 14, No. 1: 15-22 (1959). In German. Through BCIRA 39: 1064 (1959). (1686)

The production of high-bulk blankets from crimped viscose rayon staple fibers (Floxan) is described, with reference to blending of the fibers, yarns used, fabric structure and production, finishing, and quality and serviceability of the blankets. Floxan blankets exhibit a good volume stability, wooly handle, good heat-retaining properties and considerable durability during use. Washing instructions for long-pile blankets are given.

MEASURING INSULATIVE VALUE OF BLANKETS OF WOOL AND MANMADE FIBERS. A. Fahnestock and E. E. Stout (Cornell Univ.). J. Home Econ. 51: 187-190 (Mar. 1959). (1687)

The purposes of this study were (1) to develop methods for measuring insulative quality and thickness of blankets without compression of the blanket surface, (2) to compare the insulative quality of blankets of different fibers when cleaned by different methods, and (3) to compare results of the method with reactions of the users of the blankets. Graphs, table.

ELEMENTS OF FABRIC STABILITY. G. V. Lund (Courtaulds Inc.). Modern Textiles Mag. 40: 73-76, 99 (Apr. 1959). (1688)

Following a discussion of fabric shrinkage due to relaxation of fiber stresses and to fiber and yarn swelling, and of felting or progressive shrinkage due to the movement of fibers within yarns and fabrics, the results of an investigation on the latter are presented. The effects of fabric construction, yarn twist, fiber denier, and staple length on progressive shrinkage in rayon fabrics was studied, as well as the effects of the properties of various experimental manmade cellulosic fibers. Diagr, graphs.

GRADING THE FINISHED FABRIC. E. Z. Cohen. Textile Inds. 123: 107-112 (Apr. 1959). (1689)

In the point grading system described, each defect in cloth is assigned 2 or 4 points, according to its length. The most common defects appearing in cloth are defined and suggested scoring points for each are given. Sample grading sheets are illustrated.

MANUFACTURE OF PILE FABRICS FOR CLOTHING IN POLAR REGIONS. A. Bousquier. Industrie Textile: 875-885 (Dec. 1959). In French. Through BCIRA 39: 1065 (1959). (1690)

Experiments show that the filaments of pile fabrics for clothing to be used in polar regions should be straight and give a smooth surface, they should be uniformly distributed on the fabric surface, their resistance to pulling should not be appreciably lower than that of natural fur, they should retain their elasticity and resistance to temperatures below 0° (preferably to temperatures as low as -50° C), they should have a small moisture absorbability (lower than that of cotton) at high relative humidities, and be sufficiently rigid to remain almost completely separated from each other so as to resist compression or felting when combed or beaten to remove the accumulated rime. The suitability of nylon filaments is discussed.

WEATHERING OF MARQUISETTES. H. T. Stevens, H. L. Richey, and M. Reeves (Florida State Univ.). J. Home Econ. 51: 182-186 (Mar. 1959). (1691)

Thirteen fabrics, mainly marquisettes in acrylic, acetate, cotton, polyesters, nylon, and rayon, were weathered under outdoor and storage conditions on the Gulf Coast and inland 40 miles. One set was exposed for 6 months from April to October. A second experimental group had a set exposed for 3 spring months and duplicate sets of fabrics for the 3 fall months. No appreciable difference in degradation was found between the exposures at the coast and inland 40 miles for indoor storage conditions. In general, the same was true for the outdoor exposure. Only the 2 acrylic fabrics retained an appreciable strength for outdoor exposure for 6 months. Tables, 10 refs.

BIAXIAL STRETCHING OF RUBBERIZED FABRICS: EXPERIMENTS WITH AN ELLIPTICAL BURSTING TEST. A. Baker and E. Mikolajewski (Royal Aircraft Establishment). J. Textile Inst. 50: T249-T261 (Mar. 1959). (1692)

An account is given of a non-Hookean biaxial strain theory for bias ply fabric, with Hookean approximation for small extensions, together with experimental results for planar biaxial testing and for an elliptical bursting test. The anisotropy of rubberized cotton fabric is attributed to differing extensibilities of warp and weft, and is conveniently assessed by pressurizing differently oriented specimens at an elliptical orifice. Samples of 2-ply Terylene fabric woven from twistless yarns were found to be isotropic, or not as anisotropic as proofed cotton. Diagrs, graphs, 2 refs.

RELATION OF QUALITY TO COST IN LINEN MANUFACTURE. S. A. G. Caldwell. Textile Mfr. 85: 121-124 (Mar. 1959). (1693)

The difficulties of evaluating flax fiber and yarn quality are discussed, as well as the need for correct determination of the quality of yarn to be used for most economical processing.

TERYLENE IN LINED FIRE HOSE. N. B. Furvik and U. Boman (Jonsereds Fabriker AB). Textile Merc. 140: 369-370 (Mar. 13, 1959). (1694)

The construction, properties, and advantages of an all-Terylene fire hose lined with polyvinylchloride resin are described.

FACTORS INFLUENCING CELLULOSIC FABRIC SHRINKAGE. T. R. Scott, Jr. (Am. Enka Corp.). Modern Textiles Mag. 40: 77-81 (Apr. 1959). (1695)

The influence of the different physical properties exhibited by various cellulose fibers on the progressive shrinkage of fabrics woven from them was investigated. The fibers studied were: Toramomen, a high strength rayon staple fiber having low swelling, high modulus, and a high degree of polymerization (Tachikawa Research Inst., Japan); Fiber 109, a modified tire cord fiber with lower swelling and wet modulus than nylon staple (du Pont Co.); regular rayon staple; Colvadur rayon staple, a high strength, moderate swelling fiber (Glanzstoff-Courtaulds, Germany); Fiber 500, regenerated cellulose fiber of slightly higher strength, lower swelling, and higher wet modulus than regular staple (Am. Enka Corp.); and cotton. Graphs, tables.

WEAVING WITH 4,000 PICKS PER MINUTE. H. Mauersberger. Textil-Praxis 14, No. 1: 43-48 (1959). In German. Through BCIRA 39: 1057 (1959). (1696)

The Malimo machine described is based on a new technique for producing a nonwoven material from warp and weft threads, which are sewn together by means of a chain stitch. The whole installation consists of the actual machine producing the material, the warp and sewing thread creels, two weft creels, and the cloth takeup device. The machine operates with a sewing velocity of 1,300 stitches per minute; at a stitch length of 2 mm, this amounts to 2.60 m/min (about 156 m/hr). Satisfactory results were obtained at 3.2 weft threads/stitch, so that, at 1,300 stitches/min, the productivity of the machine is 4,160 picks/min as compared with that of a loom. The fabric (500 mm wide) is suitable for towels and teacloths.

PACKING COEFFICIENT AND THE THERMAL CONDUCTIVITY OF TEXTILES. M. Mark and C. T. Derecho, Jr. Bull. Lowell Technol. Inst., Ser. 62, No. 3: 3-13 (Feb. 1959). (1697)

The relationship between packing coefficient and thermal conductivity is discussed for both cellular material and fibrous aggregates. Both of these simple forms are shown to have an initial decrease in thermal conductivity followed by an increase as the packing coefficient is varied from 0 to 1. An expression is developed for the minimum possible thermal conductivity attainable with fibrous aggregates for any value of packing coefficient. General relations for the simple forms are extended to textile fabrics. The thermal conductivities of several knitted and woven wool fabrics are compared with respect to their relative abilities to attain the minimum possible thermal conductivity at a particular value of packing coefficient for each fabric. Graphs, 5 refs.

NYLON IN THE MANUFACTURE OF FISH NETS. G. Nounckele. Rayonne et Fibres Synthet. 14, No. 12: 1613-1620 (1958). In French. Through BCIRA 39: 1063 (1959). (1698)

In this review, the author discusses the properties of good fish nets, properties and disadvantages of nylon, knotless nets, special knots, and special treatments of nylon (thermal setting, application of antislipping agents, etc.).

NYLON FOR HIGH PERFORMANCE BELTING. K. W. Anderson (Brit. Nylon Spinners Ltd). Nylon Outlook 2, No. 5: 20-27 (Spring 1959). (1699)

The essential physical properties required of conveyor, drop stamp, and transmission belting are noted, as well as how well nylon measures up to these requirements. Photos, graphs, tables.

QUALITY OF RAYON UMBRELLA CLOTHS: STRUCTURE OF UMBRELLA CLOTHS. H. L. Nyman (Marks & Spencer Ltd). Man-Made Textiles 35: 48-50 (Apr. 1959). (1700)

The basic requirements for umbrella cloth construction are discussed, and test data are given for three basic fabrics to indicate the most satisfactory type of construction. Photos, tables.

HIGH WET MODULUS FIBER FABRICS. G. G. Whytlaw (Am. Viscose Corp.). Modern Textiles Mag. 40: 82-84 (Apr. 1959). (1701)

Results of stress/strain, shrinkage, mercerization, and dyeing tests on fabrics prepared from cotton, rayon, and high wet modulus Fiber 40 are presented. Graphs, tables.

FINISHING AND CHEMICAL PROCESSING D

POSSIBILITIES OF DETERMINING THE PASSAGE TIMES IN TEXTILE FINISHING. W. Löcke. Deut. Textiltech. 9, No. 1: 45-47 (1958). In German. Through BCIRA 39: 1303 (1959). (1702)

After an introductory note on the definition and problems concerning the passage times of materials in the textile finishing industry, the author discusses methods for their determination by means of formulas and nomograms, and gives as example the calculation of the time required for finishing (bleaching, dyeing, printing, and creaseproofing) 60,000 m of spun-rayon dress material.

INSTRUMENTATION IN TEXTILE FINISHING. W. H. Ridley (Foxboro Co.). Am. Textile Reptr. 73: 23-25, 55-57 (Apr. 9, 1959). (1703)

The growing use and future potential for instrumentation in dyeing, scouring, decating, mercerizing, drying, setting, and bleaching are discussed.

EUROPE'S MODEL TEXTILE FINISHER. F. G. D. Meyer and J. Hoekman (Koninklijke Twentse Stoomblekerij). Instrumentation 12: 4-9 (Jan./Feb. 1959). (1704)

The continuous finishing equipment of the Royal Twentse Steam Bleachery of Goor, Holland, is described and illustrated.

BLEACHING, DYEING, AND FINISHING: REVIEW OF RECENT DEVELOPMENTS IN THE PROCESSING OF TEXTILES. Textile Merc. 140: 50-59 (suppl., Mar. 1959). (1705)

PROGRESS IN FINISHING MACHINERY (1958). Dyer 121: 486-508 (Mar. 13, 1959). (1706)

New equipment for bleaching, dyeing, drying, curing, tentering, napping, setting, etc.

QUALITY CONTROL IN THE FINISHING PLANT. E. G. Freudenthal (Werthan Bag Corp.). Textile Bull. 85: 60-64 (Mar. 1959). (1707)

The establishment of a quality control program for a finishing mill is described.

HANK DYEING AND BLEACHING OF HIGH BULK ORLON. R. J. Rees (Wangaratta Woollen Mills Ltd). Textile J. Australia 33: 1397-1400 (Jan. 20, 1959). (1708)

The practical aspects of hank dyeing and bleaching Orlon 42 are described.

DYEING AND FINISHING SWEATERS OF CRIMP-BULKED DU PONT NYLON. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Mar. 1959. 3 p. Bull. N-116 (replaces Bull. N-72). Free. (1709)

Developing bulk, pressing, heat-setting, and dyeing with both disperse and acid dyes.

DEVELOPMENTS IN THE PROPERTIES OF SYNTHETIC FIBERS. B. C. M. Dorset. Textile Mfr. 85: 135-139 (Mar. 1959). (1710)

The following developments are discussed: level dyeing of nylon by the addition to the dyebath of substituted imidazoline compounds (BP 806 026); treatment of polyester fibers with dioxane for greater dye receptivity (BP 803 774); continuous dyeing of blends; treatment of polyester fibers with chlorinated aliphatic hydrocarbons for increased dimensional stability (BP 805 525); spot tests for detecting nitrogen, nitrile, and acrylamides in synthetic fibers; and bulked yarns from cellulose triacetate (BP 805 757).

INTERFACIAL POTENTIALS, pH, AND rH MEASUREMENTS. SVF Fachorgan Textilveredlung 14, No. 1: 3-48 (1959). In German. Through BCIRA 39: 1306 (1959). (1711)

The lectures delivered on this subject at the 1958 Autumn session of the SVF comprise the following papers: Interfacial tensions, by N. Ibl, p. 3-15; pH measuring chains and their potential uses, by S. Wolf, p. 15-20; The effect of pH during finishing of cellulosic fibers, by H. Rath, p. 21-29; Effect of the pH value on the absorption of anionic dyes by polyamide fibers, by E. Elöd, K. Schupp, and Y. Nakahara, p. 30-34; pH and wool, by D. Hildebrand, p. 34-38; Means and devices for pH and redox measurements, by E. Brunnschweiler, p. 39-40; Metrohm devices for measuring pH and redox potentials, by Metrohm AG, p. 47-48. Literature references to pH- and rH-measurements in textile finishing are listed, and books referring to interfacial potentials, pH- and rH-measurements, and to dyeing and textile chemistry are enumerated, p. 40-47.

Chemical processes D1

PHYSICAL PROPERTIES OF MERCERIZED AND DECRYSTALLIZED COTTONS. PART 1. EFFECTS OF SWELLING SOLUTIONS ON FIBERS AND YARNS. R. S. Orr, A. W. Burgis, F. R. Andrews, and J. N. Grant (So. Reg. Research Lab.). Textile Research J. 29: 349-355 (Apr. 1959). (1712)

Yarns from samples of Pima S-1, Hopi Acala, and Coker 100 Wilt varieties were scoured, chloroform extracted, mercerized, and decrystallized with anhydrous ethylamine without tension. Breaking loads for yarns immersed in solutions when compared to those in water were essentially unchanged by ethylamine but decreased appreciably by sodium hydroxide. Untreated yarns in water showed decreases in strength with increases in water temperature. Sodium hydroxide caused yarn to shrink in length as much as 35%, but ethylamine only about 17%. Fiber lengths after treatments were unchanged by scouring or extraction but decreased by the sodium hydroxide and the ethylamine. Mercerization at normal length caused a reduction in the percentage decrease in single fiber and bundle tenacities as the gage length was increased. Strength increases during mercerization are attributed to increased uniformity of strength along the fiber length. Diagr, graphs, tables, 33 refs.

PHYSICAL PROPERTIES OF MERCERIZED AND DECRYSTALLIZED COTTONS. PART 2. EFFECTS OF STRAINS DURING SWELLING, WASHING, AND DRYING. R. S. Orr, A. W. Burgis, J. J. Creely, T. Mares, and J. N. Grant (So. Reg. Research Lab.). Textile Research J. 29: 355-363 (Apr. 1959). (1713)

Yarns from samples of Pima S-1 and Hopi Acala varieties were mercerized and decrystallized when strain was controlled to provide unrestricted shrinkage in length, normal length, and 3% extension beyond normal length during ethylamine treatment. Comparisons of effects of sodium hydroxide and ethylamine at different strain conditions were made from measurements on the cellulose, tensile properties of fiber bundles and yarns, and elastic behavior of the yarns. Densities of the mercerized are in general below those of the decrystallized if occluded solvents are removed. The lower densities are in accord with the higher moisture regains for mercerized than decrystallized cottons. Diagr, graphs, tables, 14 refs.

PROBLEMS OF INHIBITING FLAMMABILITY. Man-Made Textiles 35: 71-72 (Apr. 1959). (1714)

The difficulties involved in finding a flameproof finish for textiles which will be fast to washing and drycleaning without altering the handle and geometry of the fabric are discussed, with reference to some recent flameproofing agents.

PROBLEMS ARISING FROM OPTICAL BLEACHING IN THE HANDLING OF TEXTILES. PART 1. PROBLEMS FOUND IN THE LABORATORY. P. Rochas. Teinture et Apprets No. 48: 276-280 (Oct. 1958). In French. Through BCIRA 39: 1302 (1959). (1715)

In this review, the author examines the physicochemical mechanism of the action of optical bleaching agents, laboratory methods for studying fabrics treated with optical bleaching agents, and some practical applications of these laboratory methods.

PREPARATION AND BLEACHING. PART 1. THE COTTON FIBER. K. S. Campbell (N. C. State Coll. School of Textiles). Textile World 109: 97, 99 (Apr. 1959). (1716)

The impurities that must be removed prior to bleaching and structural fiber features affecting bleaching are discussed.

BLEACHING OF LINEN GOODS WITH SODIUM CHLORITE. O. E. Itina, N. A. Oskorbina, and V. G. Grishina. Tekstil. Prom. 18, No. 10: 41-43 (1958). In Russian. Through BCIRA 39: 1301 (1959). (1717)

Optimum conditions for bleaching linen yarn and fabric with chlorite solutions in acid medium (optimum temperature, duration of the process, concentration of the solutions, pH) are discussed, and experimental results are tabulated.

CONTINUOUS ALKALI-PEROXIDE BLEACHING OF FABRICS. Y. S. Zalmanzon and E. P. Dobrokhotova. Tekstil. Prom. 18, No. 9: 39-42 (1958). In Russian. Through BCIRA 39: 1300 (1959). (1718)

The continuous range (AOZh-2) is described and illustrated, and its advantages are pointed out.

SYMPOSIUM ON TEXTILE CHEMICALS: MARKETS AND TECHNOLOGY. Chem. Market Research Assoc. Am. Dyestuff Reptr. 48: 33-48 (Apr. 6, 1959). (1719)

Inorganics: their place and expected growth pattern, by R. L. Currier, p. 33-37; Organic chemicals for textile finishing: field with a future, by W. C. Caldwell, p. 37-40; Surfactants: present and future, by C. A. Bergman, p. 41-44; Textile finishers' challenge to the chemical industry, by G. O. Linberg, p. 44-46; Introducing a new starch size, by J. P. Casey, p. 47; Development of silicone finishes in the textile industry, by W. T. Rossiter, p. 47-48.

GUIDE TO NEW TEXTILE AUXILIARIES. Dyer 121: 459-460, 462-467 (Mar. 13, 1959). (1720)

An alphabetical list of some recently introduced textile chemicals and auxiliaries, with brief notes on their use as described by the manufacturers.

IMPORTANCE OF CHLORALKYLAMINES FOR THE CHEMISTRY OF AMINOPLASTS AND OTHER NITROGEN-CONTAINING FORMALDEHYDE CONDENSATION PRODUCTS. PART 2. R. Allscher. Textil-Praxis 14, No. 1: 73-76 (1959). In German. Through BCIRA 39: 1102 (1959). (1721)

Experiments on 3 types of hypochlorite treated-urea formaldehyde precondensates have shown that: (1) the condensation reduces the chlorine consumption, though high condensation temperatures may be expected to increase the chlorine consumption; (2) ammonium catalysts do not enhance chlorine consumption; (3) the time of chlorination and the liquor ratio have a considerable effect on chlorine consumption; (4) formaldehyde causes chlorine consumption; (5) fabrics finished with ethylene-urea precondensates show practically no chlorine retention, do not yellow during ironing and their strength is not appreciably affected. For part 1 see abstr. 117/59.

RECENT DEVELOPMENTS IN TEXTILE AUXILIARIES. A. F. Kertess. Dyer 121: 454-458, 447 (Mar. 13, 1959). (1722)

MECHANICAL BEHAVIOR OF CYANOETHYLATED COTTON TEXTILES. C. M. Conrad (So. Reg. Research Lab.). Textile Research J. 29: 287-302 (Apr. 1959). (1723)

It is the purpose of this paper to bring together previously published, as well as unpublished, data on the mechanical properties of fibers, yarns, and fabrics; to express them in consistent units; and to interpret them in terms of degree of cyanoethyl substitution, conditions of reaction, textile products involved, and fine structure of the fiber. The report also points out the still unexplored areas of chemical substitution, textile product, and conditions of treatment which are in need of further study if an adequate picture of the mechanical behavior of cyanoethylated cotton is to be provided. Graphs, tables, 32 refs.

DURABLE PLEATING OF WOOL FABRICS. G. M. Swinton (Imp. Chem. Inds. Ltd). (Letter to the editor). J. Soc. Dyers Colourists 75: 153-154 (Mar. 1959). (1724)

The discoloration of Ultralan premetalized dyes occurring during Si-Ro-Set treatment of wool may be restored by mild oxidation. 2 refs.

CONTINUOUS SCOURING INSTALLATION VZhN-4 ShL. R. V. En'kova. Tekstil. Prom. 18, No. 8: 45-50 (1958). In Russian. Through BCIRA 39: 1075 (1959). (1725)

The installation described for scouring fabric in rope form comprises the filling vat, the impregnating tank, the steaming chamber, four boiling vats, and the squeezing unit. The individual processing stages are described; they can be combined with simultaneous bleaching of the fabric (e.g. viscose rayon) by the peroxide-steaming method.

PHOSPHONOMETHYLATION OF COTTON. G. L. Drake, Jr., W. A. Reeves, and J. D. Guthrie (So. Utilization Research & Development Div.). Textile Research J. 29: 270-275 (Mar. 1959). (1726)

A new phosphorus-containing ether of cellulose was prepared by the reaction of cotton with chloromethylphosphonic acid in the presence of sodium hydroxide. Phosphorus contents from 0.2% to 4.0% were obtained. By proper control of the phosphonomethylation reaction, derivatives were made which ranged from water soluble to fibrous materials in which the physical properties of the untreated cotton were substantially unaltered. Phosphonomethyl cotton was flame resistant in the ammonium salt form and had a cation exchange capacity equivalent to some of the cation exchange resins. Graph, tables, 13 refs.

MOTHPROOFING: A NEW APPROACH? R. W. Moncrieff. Fibres 20: 161-162 (May 1959). (1727)

The author discusses the implications of the treatment of wool with formaldehyde in alkaline solutions to make it immune to the attack of moths and carpet beetles (abstr. 2563/58). 5 refs.

STUDIES ON PIGMENT IMPREGNATED FABRICS EXPOSED TO WEATHER. PART 3. Canvas Prods. Assoc. Intern. Canvas Products Rev. 34: 38-40, 49, 54-64 (Apr. 1959). (1728)

Data are presented to show the effect of pigment dyeing on the weather durability of cotton canvas and cotton 80 x 80 print cloth for 12 months exposure. Effects of pigment on biological growth as determined by visual examination are given. A brief account of work in progress is presented. For parts 1 and 2 see abstr. 550/58. Tables, 6 refs.

PRACTICAL APPLICATION AND CONTROL OF DIELDRIN FOR DURABLE MOTHPROOFING. J. P. Redston (E. F. Drew & Co.). Am. Dyestuff Reptr. 48: 49-57 (Mar. 23, 1959). (1729)

The paper shows that Dieldrin strikes very fast on wool from an aqueous phase and that this fast strike may be utilized for continuous application; however, it must be carefully controlled for even application in batch-dyeing operations. In a suitable nonionic emulsion system, pH of the liquor has no effect. The effect of temperature of application is noted, and liquor ratio is shown to be the greatest variable. Other emulsion systems are considered. Diagrs, graphs, tables, 6 refs.

NYLON AS A FINISHING MATERIAL. Man-Made Textiles 35: 74, 76 (Apr. 1959). (1730)

The development of suitable solvents for nylon 66 and 6, e.g. chlorinated alcohols and chlorinated hydrocarbons, makes feasible the development of nylon finishes based on fiber and yarn wastes.

DENSITY CHANGES IN CELLULOSE TREATED WITH UREA-FORMALDEHYDE RESINS. R. Steele and R. P. Schiwall (Rohm & Haas Co.). Textile Research J. 29: 228-234 (Mar. 1959). (1731)

Density changes produced in cotton and rayon fabrics by treatment with 4 thermosetting resin precondensates were determined in density gradient columns. With the assumption that the density of resin cured in vitro corresponds to its density in the fiber, the results indicate that the predominant effect is fiber swelling, with very little resin being deposited in void spaces not previously accessible to the solvent mixture in the gradient column. The effect of resin concentration on moisture regain was also determined with these samples. Graphs, tables, 11 refs.

IMPROVING THE WHITENESS RETENTION OF BLENDS OF DACRON WITH COTTON. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Feb. 1959. 1 p. Bull. D-105. Free. (1732)

PERMANENT WATER REPELLENT IMPREGNATION. E. Atlung. Tidsskr. Textiltek. 17, No. 1: 7-11 (1959). In Danish. Through BCIRA 39: 1115 (1959). (1733)

Permanent waterproofing agents are reviewed, with reference to the characteristics of the 4 main groups: cationic fatty acid derivatives, metal-containing fatty acid derivatives, fatty acid modified formaldehyde-containing resins, and silicones. A list of commercial products (nonpermanent and permanent) is given, and mention is made of new fluorine-containing compounds (organic perfluoro-compounds). Methods for measuring the effectiveness of the impregnation and for identifying the type of water repellent agent used are also described.

DURABLE SOFTENERS FOR SWEATERS OF ORLON. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Mar. 1959. 2 p. Bull. OR-97. Free. (1734)

RHEOLOGICAL INTERPRETATION OF THE MECHANISM OF CREASE RECOVERY OF FIBER. H. Sobue and K. Murakami (Tokyo Univ.). Textile Research J. 29: 251-260 (Mar. 1959). (1735)

In an attempt to interpret the mechanism of creasing and recovery, a theoretical study of the viscoelastic behavior of fibers and/or filaments was made. The relationship between crease angle of fiber, temperature, and creasing time is discussed theoretically and experimentally. Diagrs, graphs, tables, 13 refs.

CREASEPROOFING VISCOSE RAYON FABRICS. M. F. Agapov. Tekstil. Prom. 18, No. 10: 52-54 (1958). In Russian. Through BCIRA 39: 1326 (1959). (1736)

In order to prevent a decrease in strength and abrasion resistance of viscose rayon fabrics treated with urea precondensates, it is recommended to introduce into the precondensate an emulsion obtained from soap and gelatin, marketed under the name of Esilon. The method is described, and its advantages are enumerated.

CHEMICAL AND PHYSICAL EFFECTS OF FINISHING COTTON WITH METHYLOL DERIVATIVES OF ETHYLENEUREA. J. G. Frick, Jr., B. A. Kottes, and J. D. Reid (So. Reg. Research Lab.). Textile Research J. 29: 314-322 (Apr. 1959). (1737)

A study was made of the mechanism by which cotton is made wrinkle resistant by dimethylol ethyleneurea. Its purpose was to give a better understanding of the reactions involved in the finishing of cotton with this agent, how variations in the finishing procedure affect these reactions, and the relation of these reactions to the properties of the finished fabric. Graph, tables, 8 refs.

REACTION OF WOOL WITH SODIUM HYDROXIDE IN CONCENTRATED SALT SOLUTIONS. J. R. McPhee (Wool Textile Research Labs., CSIRO, Australia). Textile Research J. 29: 303-310 (Apr. 1959). (1738)

This paper describes studies of the reaction of wool with sodium hydroxide in concentrated aqueous salt solutions as the possible basis of a shrinkproofing method. Results of practical interest are that wool can be shrinkproofed without damage by treatment with certain aqueous sodium hydroxide solutions and that yellowing of wool in alkali can be prevented by the addition of reducing agents, such as sodium bisulfite, to the solution. Graphs, tables, 25 refs.

THERMAL RESISTANCE OF COTTON FABRICS. A. Mallet. Industrie Textile: 898-900 (Dec. 1958). In French. Through BCIRA 39: 1147 (1959). (1739)

Treatments that confer on cotton fibers, without changing their nature, a better resistance to heat (other than flameproofing treatments) are reviewed.

DEVELOPMENTS IN CREASEPROOFING AND FIREPROOFING CELLULOSE FIBERS. Textile Recorder 76: 62-63 (Apr. 1959). (1740)

Dyeing and printing D2

MECHANISM OF THE DYEING OF POLYESTER FIBERS WITH DISPERSE DYES. O. Glenz, W. Beckmann, and W. Wunder (Farbenfabriken Bayer AG). J. Soc. Dyers Colourists 75: 141-147 (Mar. 1959). (1741)

Measurements of the diffusion coefficients and saturation values of 17 disperse dyes on Dacron under dyeing conditions seem to indicate that the differences in diffusion coefficient between the individual dyes are mainly due, after elimination of geometrical effects, to energy effects associated with the formation of hydrogen bonds, the dye being the proton donor. The efficiencies of 3 different carriers were approximately the same if equimolar quantities were present inside the fiber. Table, graphs, 12 refs.

FLASH PHOTOLYSIS OF VAT DYES. N. K. Bridge and W. M. Maclean (Brit. Rayon Research Assoc.). J. Soc. Dyers Colourists 75: 147-153 (Mar. 1959). (1742)

A brief outline is given of the methods which have been used to investigate the processes occurring when fading and phototendering take place. The results obtained using model systems and the technique of flash photolysis are extended in this work to the more complex problem of commercial vat dyes in solution. Graphs, diagrs, tables, 25 refs.

FAST, LEVEL SHADES ON NYLON. G. K. Mecklenburgh (Brit. Nylon Spinners Ltd). Nylon Outlook 2, No. 5: 10-15 (Spring 1959). (1743)

The behavior of disperse, acid, and direct cotton dyes is discussed, and the difficulties in dyestuff selection for both levelness and fastness are pointed out.

GUIDE TO NEW DYES. Dyer 121: 448-453 (Mar. 13, 1959). (1744)

An alphabetical list of some new dyes, with brief notes on their properties as described by the makers, and with special reference to recently introduced ranges.

DEVELOPMENTS IN DYEING AND DYES DURING 1958. R. A. McFarlane. Dyer 121: 444-447 (Mar. 13, 1959). (1745)

PRINTING CHROME COLORS WITH EMULSIONS. P. Diserens (Durand & Huguenin). Dyer 121: 440-441 (Mar. 13, 1959). (1746)

With the use of Mulsoprint, a water-soluble emulsifier, it is possible to prepare oil-in-water emulsions of outstanding stability in the presence of mordant.

PROGRESS IN MODERN DYEING MACHINERY (1958). R. A. Peel. Dyer 121: 483, 485 (Mar. 13, 1959). (1747)

BRITISH ADVANCES IN MANMADE FIBER DYEING. F. C. Livingstone. Textile World 109: 89 (Apr. 1959). (1748)

New approaches in the dyeing of polyester fibers, bulk yarns, acetates, acrylic fibers, polyamide fibers, and blends are noted.

BASIC CHEMISTRY OF DYES AND DYEING. PART 2. W. Postman (Georgia Inst. of Technol.). Textile World 109: 109, 111 (Apr. 1959). (1749)

The structure and mechanism of acid and premetalized dyes are discussed.

VAT DYEING OF COTTON AND VISCOSE PACKAGES. K. J. Bardt (Ciba Co. Ltd). Am. Dyestuff Reptr. 48: 43-48 (Mar. 23, 1959). (1750)

This paper discusses some practical aspects of package dyeing. The package type, flow pattern, rate of flow, temperature, leveling agents, and some modified dyeing methods are discussed. A selection of commonly used vat dyestuffs is briefly summarized. Diagrs, graphs, 5 refs.

DYEING. PART 1. CHEMISTRY OF DYEING (1958-1959). A. J. Hall. Fibres 20: 113-117, 120 (Apr. 1959). (1751)

This survey covers new developments in the reactive dyes, water-soluble cationic dyes, level dyeing of nylon with direct cotton and acid wool dyes, and level dyeing of wool/acrylic fibers.

DYEING. PART 2. CONTINUOUS MOLTEN METAL DYEING. Fibres 20: 118-120 (Apr. 1959). (1752)

The two systems now available for the Standfast molten metal continuous dyeing method and its extension to yarns and narrow fabrics are described. Photos, diagr.

DYEING. PART 3. PROCION DYESTUFFS. Fibres 20: 121-123, 128 (Apr. 1959). (1753)

The applications of the Procion dyes to continuous dyeing, batch dyeing, and printing are described.

NAVY BLUES ON TERYLENE. Imp. Chem. Inds. Ltd. Man-Made Textiles 35: 62 (Mar. 1959). (1754)

A new azoic method for navy blues on loose staple, slubbing, and yarn is described.

DYEING CELLULOSIC STAPLE CONTINUOUSLY WITH PROCION DYES. J. A. Fowler (Imp. Chem. Inds. Ltd). Skinner's Silk & Rayon Record 33: 249-251, 253 (Mar. 1959). (1755)

The continuous dyeing technique for loose staple fiber is described in detail. Diagrs, tables, 4 refs.

PRINCIPLES OF DYEING WITH REACTIVE DYES. T. Vickerstaff (Imp. Chem. Inds. Ltd). Hexagon Dig. 27: 3-25 (Dec. 1958). (1756)

From this examination of the dyeing behavior of reactive dyes it is concluded that the two major factors that determine the efficiency of fixation under any particular conditions are the extent to which the dye is adsorbed upon the fiber before reaction takes place and the rate of the reaction. These factors can be controlled by varying the conditions of dyeing, and the possible variants and the conditions leading to most efficient fixation are discussed. Tables, graphs, 7 refs.

LABORATORY METHODS FOR PROCION BATCHWISE DYEING RECIPES. I. Seltzer and C. D. Weston (Imp. Chem. Inds. Ltd). Hexagon Dig. 27: 26-29 (Dec. 1958). (1757)

Two pieces of simple laboratory apparatus to produce recipes for batchwise dyeing with cold-dyeing Procions are described. One covers the range of liquor ratios for jig dyeing 4:1 to 20:1, while the other covers the range 10:1 to 40:1. Both are possible because the Procions dye in the cold and have level-dyeing properties. Photos.

FIXING PRINTS PRODUCED BY TWO-PHASE PRINTING. E. Elöd and W. Graeser. Textil-Praxis (English ed.) No. 1: 23-27 (Mar. 1959). (1758)

The advantages of the two-phase printing method (Colloresin process) over the normal Rongalite-potash method are discussed and the rapid developing method of the prints using hydrosulfite (flash-aging process) is described, with reference to the steamer developed by A. Monforts for this purpose. Diagrs.

IMPROVING PRINT PENETRATION WITH CALGON. K. Manegold. Textil-Praxis (English ed.) No. 1: 40-42 (Mar. 1959). (1759)

The addition of Calgon to printing pastes is found to improve their penetration without causing a decline in sharpness of definition.

HYDROSULFITE/SODIUM HYDROXIDE METHOD FOR DEVELOPING VAT PRINTS AND VAT PADDING. E. Fees. Textil-Praxis (English ed.) No. 1: 34-38 (Mar. 1959). (1760)

The installation developed for this process (Benteler-Werke AG) is described and dyeing problems arising from the use of the steamer during development of vat prints, desizing, bleaching, and dyeing with substantive, Indanthrene, sulfur, and Anthrasol dyes are discussed.

TEXTILE PRINTING: MINOR SAVINGS MEAN MAJOR PROFITS. R. W. Jacoby. Modern Textiles Mag. 40: 56, 58 (Apr. 1959). (1761)

Some of the factors in which wide variations in practices and costs from plant to plant were found are listed.

PRACTICAL DYEING OF SWEATERS MADE OF ORLON TYPE 42 ACRYLIC FIBER. J. S. Thackrah. Dyes & Chem. Tech. Bull. 15: 45-55 (Mar. 1959). (1762)

Techniques for the preparation and dyeing of Orlon 42 sweaters are outlined. Tables, 3 refs.

PRACTICALITY OF DYEING BLENDS. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Feb. 1959. 4 p. Bull. X-100 (replaces Bull. X-94). Free. (1763)

A survey of the types of dyeing that can and cannot be applied to blend yarns and fabrics containing du Pont fibers. Discusses union-dyeing, cross-dyeing, and techniques where one blend component is reserved while the other is dyed.

DU PONT DYES FOR VEREL MODIFIED ACRYLIC FIBER. E. I. du Pont de Nemours & Co. Dyes & Chem. Tech. Bull. 15: 31-44 (Mar. 1959). (1764)

The dyeability and fastness properties of du Pont cationic, disperse, and premetalized dyes on Verel are presented.

DU PONT DYES FOR CRESLAN ACRYLIC FIBER. E. I. du Pont de Nemours & Co. Dyes & Chem. Tech. Bull. 15: 20-30 (Mar. 1959). (1765)

The dyeability and fastness properties of du Pont acid, cationic, chrome, disperse, and premetalized dyes on Creslan are presented.

DIFFUSION OF DYES IN CELLULOSE. K. J. Heritage. Trans. Faraday Soc. 54, Part 12: 1902-1910 (1958). Through BCIRA 39: 1309 (1959). (1766)

Measurements have been made of the rate of diffusion of a series of dyes through Cellophane membranes over a wide range of concentrations, particular attention being paid to the effect of the affinity of the dye for the cellulose.

DEGRADATION BY LIGHT OF SILK DYED BLACK. P. Rocnas and S. Pierret. Bull. Inst. Textile France No. 77: 99-109 (Oct. 1958). In French. Through BCIRA 39: 1368 (1959). (1767)

The authors present results of experiments carried out on degummed silk and on silk dyed black to determine their behavior on exposure to light. It was found that, provided that the dyeing caused no chemical degradation of the fibroin, it has a certain protective action against photochemical degradation of the silk.

DYEING OF ACETATE BLENDS AND ARNEL TRIACETATE BLENDS. V. S. Salvin (Celanese Corp.). Am. Dyestuff Reptr. 48: 49-55 (Apr. 6, 1959). (1768)

The problems of the dyeing of blends including acetate or Arnel triacetate have been analyzed in terms of (1) kinetics of dyeing, (2) behavior of dyebath components, (3) colorfastness, and (4) specific properties of individual dyes. These principles have been applied in the processes developed for dyeing of blends with cellulosics (cotton and rayon) and the hydrophobics (nylon, Dacron and Orlon). Tables, 4 refs.

EFFECT OF AVITEX Q SOFTENER ON THE COLORFASTNESS PROPERTIES OF FAST-TO-LIGHT DIRECT DYES ON COTTON. E. I. du Pont de Nemours & Co. Dyes & Chem. Tech. Bull. 15: 17-19 (Mar. 1959). (1769)

THEORY OF DYEING CELLULOSE WITH DIRECT DYES. G. Prati, S. Pacetti, and P. Moruzzi. Tinctoria 55, No. 11: 433-437 (1958). In Italian. Through BCIRA 39: 1093 (1959). (1770)

From the relationship between ionic equilibrium and the absorption, on cellophane samples (as such and dried) of Chrysophenine G, it is possible to determine the reduction in the accessibility of the dried cellophane to the dye. For both cellophane samples, a relationship was observed between accessibility and dyeing temperature.

GAUZE STRETCHERS FOR SCREEN PRINTING. R. Künzl. Textil-Praxis 14, No. 1: 76-77 (1959). In German. Through BCIRA 39: 1100 (1959). (1771)

Four different devices are described and illustrated.

PRINTING OF ACETATE, POLYAMIDE, POLYESTER, AND POLYACRYLONITRILE FIBERS. PART 1. P. Weber. Textil-Praxis 14, No. 1: 68-71 (1959). In German. Through BCIRA 39: 1099 (1959). (1772)

Directions are given for printing acetate rayon with disperse, basic, or vat dyes, reference being made to various methods (e.g. Manofast and Rongalite H). Suitable dyes are listed.

POSSIBILITIES OF TRICHROMATIC TONE PRINTING ON FABRICS. A. A. Sinegub-Lavrenko. Tekstil. Prom. 18, No. 8: 50-51 (1958). In Russian. Through BCIRA 39: 1098 (1959). (1773)

It is shown that, by means of photo-stencils, obtained on the basis of photomechanical color separation, it is possible to obtain on silk fabrics patterns containing up to 48 colors and shades, in 3 operations.

DYEING MECHANISM OF METAL COMPLEX DYES ADSORBED FROM NEUTRAL MEDIUM. PART 1. ADSORPTION ISOTHERMS ON POLYAMIDE FIBERS. G. Back and H. Zollinger. Helv. Chim. Acta 41, No. 7: 2242-2252 (1958). In German. Summary in BCIRA 39: 1095 (1959). (1774)

MODERN PROCESSES FOR DYEING SPUN RAYON PIECEGOODS WITH VAT DYES. W. Festerling. Rayonne et Fibres Synthet. 14, No. 12: 1635-1648 (1958). In French. Reyon Zellwolle Chemiefasern No. 12: 873-877 (1958). In German. Through BCIRA 39: 1092 (1959). (1775)

In this review, particular reference is made to the pad steam method, the continuous vat acid process, the vat acid padding method, and the pigment padding procedure.

IMPROVEMENT OF THE SPINNING PROPERTIES OF DYED COTTON. N. A. Shubina and G. E. Sladkopevtseva. Tekstil. Prom. 18, No. 8: 56-58 (1958). In Russian. Summary in BCIRA 39: 1090 (1959). (1776)

Dyeing, drying, and conditioning recommendations are given.

Mechanical processes D3

DALGLISH-ARTOS POLYMERIZING MACHINE. K. S. Laurie (John Dalglish & Sons Ltd). Textile Merc. 140: 393 (Mar. 20, 1959). (1777)

The design and features of the polymerizer are covered. Diagr.

AUTOMATIC CONTROL OF FABRIC SINGEING. Y. N. Osorin. Tekstil. Prom. 18, No. 10: 56-57 (1958). In Russian. Through BCIRA 39: 1296 (1959). (1778)

NAP FINISHES FOR WOOL FABRICS. H. M. Haffner. Textil-Praxis (English ed.) No. 1: 43-48 (Mar. 1959). (1779)

Recommendations are given for cover weave and wool types most satisfactory for nap finishes and for procedures for dyed fabrics. Diagrs.

EFFECT OF HUMIDITY AND CALENDERING ON CHEMICAL SHRINKAGE. R. Steidl. SVF Fachorgan Textilveredlung 13, No. 12: 694-702 (1958). In German. Through BCIRA 39: 1113 (1959). (1780)

Cotton fabrics were dried to different residual humidities and parts of them were subsequently subjected to various calendering treatments. Condensation of the chemically shrunk fabrics was carried out in each case under the same conditions. Shrink resistance in warp and weft direction, tensile strength of warp and weft, and abrasion resistance of the fabric were determined before and after several launderings by boiling. The results are discussed and presented graphically to show their dependence upon the type of drying and the effect of subsequent calendering.

Drying, setting, conditioning D4

CHAINLESS DRYER FOR YARN HANKS. Fleissner Ltd. Textile Recorder 76: 89 (Mar. 1959). (1781)

This revolving hank dryer dispenses with the use of chains and rotates the hanks by an ingenious mechanical arrangement during their passage through the drying zone. Diagr.

EFFECT OF FIXING WITH AND WITHOUT VACUUM ON THE TECHNOLOGICAL PROPERTIES OF PERLON. H. Kirchner. Deut. Textiltech. 9, No. 1: 43-44 (1959). In German. Through BCIRA 39: 1254 (1959). (1782)

The technological properties of Perlon continuous filament yarn were examined at various setting temperatures and it was found that fixation without vacuum at a temperature above 125° C considerably impairs the strength and elongation of the yarn. Since, during setting in vacuo, these adverse effects are not observed and the sulfuric-acid solubility also shows no appreciable difference, this phenomenon cannot be attributed to thermal damage.

TESTING AND MEASUREMENT E

THE RANGES IN SMALL AND CORRELATED SAMPLES. P. G. Moore. Trabajos de Estadistica 9, No. 1: 3-12 (1958). In English. (1783)

In multi-spindle control charting, correlated estimates of the population standard deviation are obtained when ranges are taken in the form of two or more items from each spindle at a particular time. The effects of this correlation on standard deviations and significance levels of control charts are evaluated. Graph, tables, 1 ref.

1959 INSTRUMENT SURVEY. Fibres 20: 149-157 (May 1959). (1784)

Photos.

Fibers E1

AN INTERNATIONAL EXPERIMENT FOR EVALUATING THE MEASURING ACCURACY OF THE SHIRLEY ANALYSER. N. B. Furvik and D. M. Sandelius (Swedish Inst. for Textile Research). Intern. Rev. Cotton Allied Textile Inds. 27: 36-54 (Mar. 1959). (1785)

Thirteen European mills and laboratories took part in an investigation to evaluate the accuracy of lint and trash content in raw cotton as determined by the Shirley Analyser. Two different methods (the Shirley method and an abbreviated method) were used and the experiment was designed to give information about systematic differences between the two test methods.

ZERO TEST LENGTH VERSUS TEST LENGTH OF 1/8 INCH WITH THE PRESSLEY FIBER BUNDLE STRENGTH TESTER. A. F. Wolf. Z. ges. Textil-Ind. 61, No. 1: 5-8; No. 2: 48-51 (1959). In German. Through BCIRA 39: 1131 (1959). (1786)

The finding that, in order to obtain satisfactory results, more breaking tests must be carried out at a 1/8-in. test length than at zero clamp distance, is attributed to the differences between the two procedures (as indicated by the variation coefficients) and to the fact that, by using the average of 5 breaking tests, a statistically significant difference exists for the same cotton both at zero and 1/8-in. test length and, by using the mean from two breaking tests, a considerable difference is noticeable between various cottons at both test lengths, and that no statistically significant difference occurs for the same cotton at 1/8-in. test length. These results indicate that, at a 1/8-in. test length, the fiber strength or breaking strength is not measured directly, and that, on correlating the breaking values at this test length with the yarn strength, a certain indirect relationship is obtained between the yarn strength and a complex of fiber properties, such as fiber length and fiber strength.

IMPROVED INSTRUMENT TO MEASURE THE MOISTURE CONTENT OF LINT COTTON, SEED COTTON, AND COTTONSEED. J. A. Reddick, S. C. Mayne, Jr., and E. E. Berkley (Anderson, Clayton & Co.). Textile Research J. 29: 219-222 (Mar. 1959). (1787)

An improved electrical conductivity instrument for measuring rapidly and accurately the moisture content of lint cotton, seed cotton, and cottonseed is described. Moisture contents in percentages, based on total weights of samples, are indicated on a direct reading dial. Accurate measurements of ± 1% in the 3.3-22% moisture range are obtainable with this instrument when compared with standard oven methods. Photos, graphs, 4 refs.

CORRESPONDENCE REGARDING "APPLICATION OF INFRARED ABSORPTION SPECTROSCOPY TO INVESTIGATIONS OF COTTON AND MODIFIED COTTONS, PART 1". B. Norwick (Beaunit Mills). Reply: R. T. O'Connor, E. F. DuPré, and D. Mitcham (So. Reg. Research Lab.). (Letters to the editor). Textile Research J. 29: 364-365 (Apr. 1959). (1788)

X-RAY DETERMINATION OF FIBER PARTICLE SIZE. C. Ruscher. Faserforsch. u. Textiltech. 9, No. 11: 485-487 (1958). In German. Through BCIRA 39: 1127 (1959). (1789)

The limitations of the method for determining the particle size in a fiber specimen from the width of the x-ray interferences are discussed. Since, however, this value contributes in some cases to the characterization of the fiber (e.g. when examining various Perlon or Terylene fibers), a diagram is given for the rapid determination of a particle-size equivalent from the measured width at half maximum band intensity.

IDENTIFICATION OF UNKNOWN SYNTHETIC FIBERS. PART 2. APPLICATIONS OF POLARIZED LIGHT MICROSCOPY. S. G. Smith (Security Mills). Am. Dyestuff Reptr. 48: 35-39 (Mar. 23, 1959). (1790)

This paper is partly the result of a study of the polarized light microscopy of manmade fibers as applied to their identification. It describes a working method, and it attempts to tie useful data into an analytical scheme previously published (abstr. 1348/58). Diagrs, table, 11 refs.

DETERMINATION OF FIBER CROSS-SECTIONAL AREA BY MEANS OF SQUARED SCREEN. Y. A. Mazov. Tekstil. Prom. 18, No. 10: 46-47 (1958). In Russian. Through BCIRA 39: 1347 (1959). (1791)

The method described consists in photographing the microscopic sections directly on to paper and projecting the negative on to a screen divided into squares (e.g. 3 x 3 mm). The area of the cross-section is conveniently determined by using a templet with known area and calculating only the additional squares not covered by the templet (error 0.2-0.5%). The screen method can also be used for determining the area of diagrams (e.g. stress-deformation).

FIBER SECTION CUTTING BY THE PLATE METHOD. J. E. Ford and S. C. Simmens (Shirley Inst.). J. Textile Inst. 50: P148-P158 (Mar. 1959). (1792)

The plate method of sectioning is considered in detail and a sectioning plate of improved design is described. Instructions are given for preparing a cross-section of high quality for almost any fiber material, according to one of three simple mounting procedures. The theoretical background of using different mountants is discussed and subsidiary techniques are included in an appendix. Photomicrographs, diagrs, 3 refs.

TECHNIQUE FOR PRODUCING LONGITUDINAL SECTIONS OF TEXTILE FIBERS, PLASTIC FOILS, AND OTHER OBJECTS. N. Iwanow and R. Schneider. Bull. Inst. Textile France No. 77: 55-62 (Oct. 1958). In French. Through BCIRA 39: 1348 (1959). (1793)

The method described consists essentially in setting, parallel to the cutting plane of a microtome knife, a flat surface on to which are glued fiber portions (0.2-0.3 mm long) to be cut into successive longitudinal sections (1-2 μ thick) parallel to the axis. In general, all the successive sections can be used and, knowing the number of sections made and their thickness, it is possible to determine the position of a certain section in the fiber. The technique can also be used in cutting film sections parallel to the surface.

DEVICE FOR MEASURING THE LENGTH OF SINGLE FIBERS. G. V. Churbanov and D. I. Benediktov. Tekstil. Prom. 18, No. 10: 60-61 (1958). In Russian. Through BCIRA 39: 1346 (1959). (1794)

The device, described and illustrated, is suitable for measuring the length of wool and synthetic fibers at a rate of 500 fibers/hr.

Yarns E2

IMPROVED CROCKMETER FOR YARN TESTING. S. Korpanty (Empire Rayon Yarn Co.) and C. R. Trommer (Boris Kroll Fabrics Lab). Am. Dyestuff Reptr. 48: 40 (Mar. 23, 1959). (1795)

This paper describes an improved method of mounting the test square to overcome the problems inherent in the use of the rubber bands. Diagrs.

CHARACTERIZATION OF TASLAN TEXTURED YARNS. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Apr. 1959. 5 p. Bull. X-110 (replaces Bull. X-49). Free. (1796)

Test methods used to characterize Taslan textured yarns are presented. The tests measure physical bulk, stability, denier uniformity, over-all diameter, core diameter, and loop size and frequency. Diagrs.

DETERMINATION OF CREASING TENDENCY IN FINISHED YARNS. L. Rudolph. Z. ges. Textil-Ind. 61, No. 3: 76-77 (1959). In German. Through BCIRA 39: 1361 (1959). (1797)

P.-A. Koch and W. Böhme developed a method for testing the creasing tendency on individual threads, which they recommend for continuous monofilaments (rayon, natural silk). The author carried out experiments on various types of yarns and, provided that the yarns were suitably wound (under a load of 20 g/100 den.), he obtained results that were reproducible in practice. The method and device for measuring the creasing angle are described, and the experimental results are evaluated, taking into account the creasing angles measured immediately after the test and also after a relaxation time of 24 hrs.

USE OF HARP STRENGTH TESTING METHOD IN THE COTTON SPINNING MILL. K. Schön. Z. ges. Textil-Ind. 61, No. 1: 8-9; No. 2: 51-55 (1959). In German. Through BCIRA 39: 1144 (1959). (1798)

The main advantages of the collective strength-testing method by means of the Schumacher harp tester: the rapid testing and evaluation under conditions similar to those occurring in practice, the new source of information, and the statistically reliable measuring results, are discussed and its practical application is shown on yarns from three spinning mills.

COMMON DENOMINATOR FOR TEST RESULTS. I. Seibert. Textile Bull. 85: 45-46 (Mar. 1959). (1799)

There are a number of measures for uniformity such as % CV, U, and NU. This article points out that a proportionate reference figure can be calculated which relates these various measures to each other.

SPECIAL SLIDE RULE FOR STATISTICAL EVALUATIONS. U. Liebscher and J. Fischer. Reyon Zellwolle Chemiefasern No. 12: 877-879 (1958). In German. Through BCIRA 39: 1145 (1959). (1800)

A statistical slide rule for determining the relative confidence range is described and its use explained. It is recommended for use in evaluating irregularity according to the German Standard DIN 53 804.

USEFUL STAIN FOR INCLUSION AND SURFACE DAMAGE DETECTION IN VISCOSE RAYON FILAMENTS. E. C. Jolliff (Am. Enka Corp.). (Letter to the editor). Textile Research J. 29: 279-281 (Mar. 1959). (1801)

Photomicrographs.

Fabrics E3

METHOD FOR DETERMINING FABRIC SHRINKAGE AFTER WETTING. I. V. Chentsov, R. M. Dulina, and V. A. Dovgailo. Tekstil. Prom. 18, No. 10: 47-48 (1958). In Russian. Through BCIRA 39: 1366 (1959). (1802)

The method consists in marking off, on a 30 x 30 cm fabric sample, 20 cm in the warp and 25 cm in the weft direction, subdividing the rectangle into 9 equal portions by marking the boundaries with white cotton, and steeping the open fabric for 2 hrs in water (18-20° C) with the addition of wetting agent (2 g/l). The sample is then dried at room temperature on a glass plate without squeezing, and measured in the warp and weft direction to determine percentage shrinkage.

TEXTILE INSPECTION LIGHTING. W. Allphin (Sylvania Lighting Prods.). Am. Textile Reptr. 73: 59-60, 65-66 (Apr. 9, 1959). (1803)

The requirements for adequate lighting for inspection are outlined.

EVALUATION OF THE CELANESE WRINKLE TESTER. E. R. Kaswell (Fabric Research Labs.). Am. Dyestuff Reptr. 48: 56-60 (Apr. 6, 1959). (1804)

Three pairs of fabrics, each consisting of an untreated control and a resin-finished sample, were evaluated by 14 observers from 7 laboratories. Excellent correlation was found among observers' ability to rank the fabrics for wrinkle resistance. Comparisons were made between the Stoll-Celanese test results and the Monsanto Crease Angle, Cyanamid Crease Angle, and the Hebeler-Kolb Profile Height Wrinkle tests. Good correlation was found to exist among all tests, with the exception of the Hebeler-Kolb. Since the Stoll-Celanese test employs a subjective rather than objective evaluation, the AATCC Committee voted not to recommend it as a standard test method. Photos, diagrs, graphs, tables, 2 refs.

FLUORESCENCE TO CHECK TEXTILE FIBER BLEACHING. V. Broglia. Chimica 34: 235-238 (June 1958). In Italian. English summary in European Tech. Digests 3: 98-99 (July 1958). (1805)

The fluorescence shown by a fabric illuminated by a special type of light (2537 Å units) offers a quick method of checking any alteration in the textile fibers due to excessive bleaching.

STUDY OF THE RELATIONSHIP BETWEEN BREAKING TIME AND BREAKING LOAD FOR FABRICS TESTED ON CRE AND CRT MACHINES. A. S. Tweedie, M. T. Mitton, and J. M. Fry (Nat. Research Council, Canada). Textile Research J. 29: 235-251 (Mar. 1959). (1806)

A study was made of the relation between breaking time and breaking load for 6 different fabrics, using 1-in. ravelled strips with 3-in. initial clamp separation, tested on a constant-rate-of-specimen-extension (CRE) machine operated at a number of rates of extension, i.e. cross-head speed. In general the fabrics showed a decrease in breaking load with increase in breaking time. Tests were also carried out on constant-rate-of-traverse (CRT) pendulum machines at 2 or 3 different speeds for each fabric. Good agreement was obtained between the breaking loads measured on the CRE and CRT machines when compared at equal breaking times. To put the measurement of breaking load of fabrics on a constant-breaking-time basis appears to offer the best means of obtaining comparable results with different types and capacities of testing machines. Graphs, tables, 19 refs.

THE RANDOM TUMBLE PILLING TESTER. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Feb. 1959. 16 p. Bull. X-96 (supplements Bull. X-46). Free. (1807)

Other E4

DETERMINATION OF LIGHTFASTNESS. K. McLaren (Imp. Chem. Inds. Ltd). Hexagon Dig. 27: 30-47 (Dec. 1958). (1808)

The author discusses the reliability and reproducibility of the ISO method, the reasons for its rejection in the U.S., and the advisability of its acceptance as an international standard. Photos, graphs, 24 refs.

LITHIUM CHLORIDE HYGROMETERS. Herbert Ruprecht. Textil-Praxis (English ed.) No. 1: 33-34 (Mar. 1959). (1809)

The operation of this hygrometer is based on the variable electrical resistance of lithium chloride, a strongly hygroscopic salt solution.

MILL MANAGEMENT F

MANAGEMENT PROBLEMS IN THE WOOL TEXTILE INDUSTRY. PART 4. MANAGEMENT DEVELOPMENT. J. W. Humble (Urwick, Orr & Partners Ltd). Fibres 20: 135-138 (Apr. 1959). (1810)

Some problems of recruitment and succession are discussed, and some ways of training managerial personnel for the higher posts in a company are examined.

MANAGEMENT PROBLEMS IN THE WOOL TEXTILE INDUSTRY. PART 5. MANAGEMENT ASPECTS OF QUALITY CONTROL. G. Wood (Urwick, Orr & Partners Ltd). Fibres 20: 174-177 (May 1959). (1811)

The implications of quality control as a potential aid to management in its dealings both with the original supplier and with the eventual customer are discussed.

Industrial engineering F1

WORK SAMPLING IN THE OFFICE. W. F. Buhl (B. F. Goodrich Co.). Am. Soc. Quality Control. Middle Atlantic Conference Trans.: 23-35 (1959). (1812)

Illustrative examples of statistical control applications applied to office work. Graphs, tables, diagrs.

STUDY OF INVENTORIES AND PROFITS AT GAFFNEY MANUFACTURING COMPANY. A. J. Bows and D. B. Hertz. Arthur Andersen & Co., Operations Research Dept., 67 Broadway, New York, N.Y. 1959. 30 p. (1813)

An address before the Am. Cotton Manufacturers Inst. at their annual convention in Palm Beach, Fla., Mar. 20, 1959.

APPROACH TO MATERIALS HANDLING. P. T. Eaton (Georgia Inst. Technol.). Am. Textile Reptr. 73: 19, 46-48 (Mar. 19, 1959). (1814)

A long range approach to materials handling is advocated.

OVERLOAD PROTECTION OF AC MOTORS. C. R. Whitney (Square D Co.). Textile Bull. 85: 65-68 (Mar. 1959). (1815)

REVIEW OF MACHINERY DEVELOPMENTS DURING 1958. Textile Merc. 140: 33-37 (suppl., Mar. 1959). (1816)

STEAM TO ELECTRICITY: CONVERSION FOR WEAVING AND PREPARATION WEAVING MACHINERY. S. Birchall (Brit. Thomson-Houston Co. Ltd). Textile Weekly 59(1): 714, 717-178 (Mar. 20, 1959). (1817)

The factors involved in the changeover are discussed.

SOUTHERN TEXTILE METHODS AND STANDARDS ASSOCIATION. PROCEEDINGS. Fall meeting, Oct. 23 and 24, 1958. 104 p. Available from Executive Secretary, 232 Riddick Bldg., N. C. State Coll., Raleigh, N. C. (1818)

What's new in card rooms, by W. A. Funderburk, p. 1-7; What's new in twisting and weaving, by R. E. Machan, p. 8-23; What's new in spinning rooms, by O. N. Fisher, p. 24-26; Multiple machine assignment, by R. D. Sellers, Jr., p. 27-33; An approach to finishing mill materials handling, by E. F. Balfrey, p. 34-45; Incentive applications in finishing, by T. R. Williams, p. 46-55; Work sampling in the finishing plant, by R. Collinge, p. 56-61; A realistic appraisal of some textile industry problems and responsibilities, by T. M. Forbes, p. 62-104.

MODERN METHODS OF TEXTILE QUALITY CONTROL: A NEW VIEWPOINT. F. A. Gnaedinger (Canadian Celanese Ltd). Can. Textile J. 76: 56-60 (Apr. 3, 1959). (1819)

The application of statistical techniques (frequency distribution, average values, random sampling, etc.) to quality control is explained. Graphs.

JOB ANALYSIS AND HISTORICAL PRODUCTIVITIES IN THE AMERICAN COTTON TEXTILE INDUSTRY: A STUDY IN METHODOLOGY. T. Y. Shen. Rev. of Economics & Statistics 40: 149-158 (May 1958). (1820)

This paper is intended to demonstrate the usefulness of job analysis data in the general framework of the engineering approach. Two time series of coefficients, labor-output and machine-output, were derived for the cotton textile industry in an effort to illustrate the methodology involved. After showing that substitution between machinery and labor was not likely to have affected the historical values of these coefficients, the series were compared to the corresponding series derived from firm and industry data. The empirical findings of this paper show that the textile industry has not taken full advantage of the various potentialities for labor-saving methods. Graph, tables, refs.

TEXTILE QUALITY CONTROL PAPERS. v. 6, 1959. Am. Soc. for Quality Control, Room 6197 Plankinton Bldg., 161 West Wisconsin Ave., Milwaukee 3, Wis. 1959. 129 p. $5.00. (1821)

Professional development in quality control, by C. E. Fisher, p. 1-9; Skip bundle sampling: a new and economical method for process control in the sewing room, by R. E. Heiland, p. 10-22; Establishing a quality control program in a textile finishing plant, by E. G. Freudenthal, p. 23-32; New applications of statistical quality control to textile manufacturing, by J. K. Park, p. 33-39; Reduced costs through formal quality agreements with vendors, by J. N. Little, p. 40-44; Meanings of textile quality control tests, by B. Norwick, p. 45-57; Quality control charts, by D. S. Chambers, p. 58-66; Some basic aspects of sampling, by R. J. Hader, p. 67-77; Analysis of variance, by M. C. Palmer, p. 78-81; Nonparametric statistics, by D. J. Cowden, p. 82-99; Extension of utilization research in chemical finishing to improve and control the quality of cotton textiles, by L. L. Heffner, p. 100-109; Productivity measurement, by H. W. Martin, p. 110-129.

STATISTICAL QUALITY CONTROL: AN INTRODUCTION FOR MANAGEMENT. D. H. W. Allan. Reinhold Pub. Corp., New York. 1959. 129 p. $3.50. (1822)

Basic aspects of quality control.

PROCESS CONTROL IN THE SEWING ROOM. R. E. Heiland. Knitter 23: 25-29 (Mar. 1959). (1823)

The skip bundle sampling system and its application to process control in the sewing room are explained.

QUALITY CONTROL IN TEXTILES. H. Fisher (Dominion Textile Co. Ltd). Can. Textile J. 76: 51-54 (Apr. 3, 1959). (1824)

Basic essentials of an effective quality control program are outlined.

FABRIC INVENTORY SYSTEM. B. R. Shaw (Van Raalte Co.). Textile World 109: 56-57 (Apr. 1959). (1825)

The punched card system used by the Van Raalte tricot plant is described and illustrated with sample forms.

WORK MEASUREMENT. V. H. Rotroff. Reinhold Pub. Corp., New York. 1959. 203 p. $4.85. (1826)

Basic aspects of time and motion study.

Plant and equipment F2

NYLON TUBING FOR CENTRALIZED LUBRICATION SYSTEMS. Textile Inds. 123: 153-155 (Apr. 1959). (1827)

SYNTHETIC RUBBER IN TEXTILE PROCESSING. G. Blake (Armstrong Cork Co. Ltd). Textile Weekly 59(1): 709-710, 712 (Mar. 20, 1959). (1828)

Developments in the use of synthetic rubber for such accessories as drafting cots and aprons and loom takeup rollers, temple rollers, and picker spindle buffers are briefly noted.

RECENT MECHANICAL IMPROVEMENTS IN TEXTILE MACHINERY. J. S. Taylor. Textile Recorder 76: 64-65 (Apr. 1959). (1829)

Photos.

RECENT TRENDS IN THE DESIGN OF MODERN MACHINERY. J. A. B. Mitchell. Textile Mfr. 85: 125-126, 130 (Mar. 1959). (1830)

WHAT CAUSES PLANT FIRES. E. W. Fair. Textile World 109: 58, 166-168 (Apr. 1959). (1831)

The basic causes of plant fires and their control are discussed.

DUST ELIMINATION IN TEXTILE MILLS. F. Walz. Textil-Praxis (English ed.) No. 1: 1-8 (Mar. 1959). (1832)

The main types of dust reduction and prevention systems used in the textile industry are surveyed. Photos, diagrs.

MAKING REEQUIPMENT WORTHWHILE. K. P. Norris (Brit. Cotton Ind. Research Assoc.). Textile Weekly 59(1): 646, 648 (Mar. 13, 1959); 724, 727-728 (Mar. 20, 1959). (1833)

The factors to be considered in assessing the advisability of proposed capital expenditure are discussed.

SCIENCES G

Chemistry G1

EFFECT OF NaOH ON BX VISCOSE RAYON YARN. K. Kato and K. Yamada (Toyo Rayon Co. Ltd). (Letter to the editor). Textile Research J. 29: 368-370 (Apr. 1959). (1834)

Hydrocellulose changes, as revealed by electron microscopy, resulting from the aqueous alkali treatment of BX rayon are discussed. Photomicrographs, table, 6 refs.

COMPARISON OF TWO WASHABILITY CHARACTERISTICS OF DACRON-AND-COTTON FABRICS WITH THOSE OF SIMILAR ALL-COTTON FABRICS. P. E. Keeney, F. Buchanan, A. Jackson, and J. Edwards. J. Home Econ. 51: 191-195 (Mar. 1959). (1835)

A study was made of the effects of laundering upon the whiteness of, and soil removal from, Dacron/cotton blends compared with similar all-cotton fabrics. Selected soaps and synthetic detergents, popular in home laundering, and soft water were used. Tables, 7 refs.

FRACTIONATION OF POLYETHYLENE GLYCOL TEREPHTHALATE. W. R. Moore and R. P. Sheldon (Bradford Inst. Technol.). (Letter to the editor). J. Textile Inst. 50: T294-T296 (Mar. 1959). (1836)

CHROMATOGRAPHIC ANALYSIS OF FRACTIONS OF NORMAL AND DEGRADED ELEMENTARY FLAX FIBERS. A. Parisot and J. Derminot. Bull. Inst. Textile France No. 77: 7-25 (Oct. 1958). In French. Through BCIRA 39: 1357 (1959). (1837)

Chromatographic studies of sodium chlorite treated flax fiber fractions, isolated by partial solubilization in sodium hydroxide, showed the presence of the pentoses xylose and arabinose (rhamnose is uncertain). Other sugars, such as mannose, appear to result from chemical treatments preparatory to chromatography and to originate from glucose conversion. The chemical sensitivity of the cellulose macromolecule is increased in the vicinity of the pentoses, but there is no direct evidence of their regular distribution over the cellulose chain so that it is not yet possible to say whether the sensitive places in cellulose are due to the pentoses inserted in this chain.

EFFECT OF FINISHES ON SOILING AND CLEANING OF COTTON CARPETS. H. M. Fletcher and M. L. Hensley. J. Home Econ. 51: 277-282 (Apr. 1959). (1838)

A study has been made of the resistance to soil and behavior in cleaning of 12 cotton pile broadloom floor coverings. Colors included white, pink, green, and gray of moderate or low chroma ranging in value from 4.5 to 9.3. Effects of 3 soil-retardant finishes were evaluated by comparison of treated and untreated rugs during service and after washing by 2 methods, reciprocating brush and wash wheel. Application of finishes after each cleaning made the rugs more resistant to soil. Those without finishes soiled on an average of 1.6 times faster than did those with finishes. The 3 finishes were equally effective. Graphs, tables, 4 refs.

ELECTRON MICROSCOPE OBSERVATIONS ON HELICAL STRUCTURE IN STARCH. A. N. J. Heyn (Clemson Coll.). (Letter to the editor). Textile Research J. 29: 366-368 (Apr. 1959). (1839)

VISCOSITY-TEMPERATURE RELATIONSHIPS FOR DILUTE SOLUTIONS OF CELLULOSE DERIVATIVES. PART 1. TEMPERATURE DEPENDENCE OF SOLUTION VISCOSITIES OF ETHYL CELLULOSE. W. R. Moore and A. M. Brown (Bradford Inst. of Technol.). J. Colloid Sci. 14: 1-12 (Feb. 1959). (1840)

Viscosities of dilute solutions of 6 fractions of ethyl cellulose, molecular weight range 40,000-140,000, in 6 solvents were determined at different temperatures between 25° and 60° C. Graphs, tables, 16 refs.

MEASUREMENT OF INTRINSIC VISCOSITY OF CELLULOSE BY THE NITRATION METHOD. J. Cyrot. Bull. Inst. Textile France No. 77: 27-54 (Oct. 1958). In French. Through BCIRA 39: 1356 (1959). (1841)

Various methods are reviewed, based either on direct fractionation of cellulose or on its conversion into a derivative soluble in organic solvents and subsequent fractionation. Special reference is made to the methods for converting cellulose into nitrocellulose, fractionating the nitrated derivative, and measuring the chain-length of various fractions. A method is described that is claimed to give a stable, almost trinitrated derivative that does not undergo degradation during nitration. 61 refs.

CHEMICAL ENGINEERING REVIEWS. Ind. Eng. Chem. 51, No. 3, Part 2: 333-480 (Mar. 1959). (1842)

14th annual unit operations review: absorption and humidification; adsorption; centrifugation; crystallization; drying; filtration; flow of fluids; high temperature distillation; ion exchange; liquid extraction; materials handling; mixing; and size reduction. 7th annual fundamentals of chemical engineering review: molecular transport properties of fluids; diffusion in metals; oxidation of metals; colloids and surface behavior; computers, mathematics, statistics, and operations research; process control and automation; fluid dynamics; heat transfer; mass transfer; and thermodynamics.

PREVENTING SOIL REDEPOSITION WITH CMC. J. Stawitz and P. Hoepfner. Seifen-Oele-Fette-Wachse: 711-713 (Nov. 12, 1958). English summary in Soap Chem. Specialties 35: 135, 137 (Apr. 1959). (1843)

MODEL VISCOSE RAYON FILAMENTS. R. J. E. Cumberbirch, D. G. Drummond, J. E. Ford, and S. C. Simmens (Shirley Inst.). J. Textile Inst. 50: T262-T283 (Mar. 1959). (1844)

The laboratory preparation of model viscose filaments is described. These filaments have much higher deniers than commercial viscose rayon filaments but contain similar structural features. Since the structural regions in the model filaments are of greater size than those in commercial rayon, they can be studied with greater facility. A detailed examination of transverse sections of model filaments with the optical and electron microscopes is described. Evidence is presented on several features that have been either inconclusively demonstrated, or have been variously interpreted in studies on fine filaments. An outer layer termed the cuticle is present in model filaments spun into coagulation baths containing zinc, and is absent in filaments spun into baths free from zinc. On the basis of cavities observed in the skin region of filaments showing a cuticle, a mechanism for skin staining is proposed. Orientation effects displayed in the outer layers of these filaments are explained in terms of shrinkage forces and the presence or absence of a cuticle. Photomicrographs, diagrs, tables, 25 refs.

Physics G2

COLOR VISION TESTS FOR DYERS. F. Jordinson. Textile Mfr. 85: 112-115 (Mar. 1959). (1845)

The following tests for testing color discrimination are critically examined: Ishihara, Holmgren wool test, Garner test, Glenn Colorule, and Farnsworth-Munsell 100-hue test. Diagrs, 5 refs.

Biology G3

BACTERIOSTATS IN HOME LAUNDRY DETERGENTS. R. E. Vicklund (Sindar Corp.). Soap Chem. Specialties 35: 56-57, 159 (Apr. 1959). (1846)

Bacteriostatic agents can be used in laundry detergents to impart demonstrable antibacterial properties to laundered articles. Table, 3 refs.

INDUSTRIAL FUNGICIDES. C. J. Wessel and W. M. Bejuki (Prevention of Deterioration Center). Ind. Eng. Chem. 51: 52A-63A (Apr. 1959). (1847)

Information presented on 403 available industrial fungicide products, representing 140 different chemicals or combinations, includes chemical name, trade name, producer, and uses. Index.

MISCELLANY H

SOME AUSTRALIAN RESEARCH ON WOOL. PART 2. WOOL TEXTILE PROCESSING. M. Lipson (Wool Research Labs., CSIRO). Research 12: 122-126 (Apr. 1959). (1848)

Practical developments resulting from wool processing research are outlined: sheep branding fluids, solvent degreasing, carbonizing, worsted combing, mothproofing, shrinkproofing, and permanent pleating and creasing. Photos.

INTERFIRM COMPARISON AND THE COTTON INDUSTRY. E. Ford. Fibres 20: 139-140, 144 (Apr. 1959). (1849)

The advantages that individual firms can gain from a scheme which provides a breakdown of the financial results of other firms in the industry, for comparison with their own results, are discussed.

CYCLES AND TRENDS IN TEXTILES. T. J. Davis. U. S. Business & Defense Services Admin., Washington, D. C. 1958. 63 p. Available from Superintendent of Documents, Washington 25, D. C. 40¢. (1850)

Contents: introduction, elements of textile mill activity, basic characteristics of textile fiber consumption (uses of fibers, interfiber competition, equivalence of fibers, leads and lags, effects of organization of the industry), the textile cycle (evidence of a textile cycle, the method of demonstration, the nature of the cycle, the causes of the cycle), fiber consumption and the national economy (secular trend, income and fiber consumption, wardrobes, consumer expectations, industrial textiles, government purchases, exports and imports, relative prices, review of equations), and bibliography. Tables, graphs.

RESEARCH AND MANAGEMENT. Shirley Inst. Fibres 20: 172-173, 177 (May 1959). (1851)

The managerial aspects of research, as applied to the study of mill procedures, production costs, labor utilization, etc., are discussed.

PATENT CHECKLIST

U.S. patents may be obtained from the U.S. Patent Office, Washington, 25, D.C., for 25¢ a copy. Photostatic copies of foreign patents are also available. Charges for these photostats are based on the number of pages in the patent.

YARN PRODUCTION B

CRIMPED THERMOPLASTIC FILAMENTS. R. H. Speakman and R. B. Macleod (to Imp. Chem. Inds. Ltd). BP 808 213, Jan. 28, 1959. Through BCIRA 39: 1031 (1959). (1852)

Thermoplastic filaments (Terylene, nylon) are heated continuously along their length, but on one side only, by passing them over a wire or bar electrically heated at above 270° C. The speed may be up to 1,000 m/min and the tension sufficient to stretch the filaments by not more than 10%.

BLENDING MACHINERY. N. Hooper (to Tweedales and Smalley Ltd). BP 808 882, Feb. 11, 1959. Through BCIRA 39: 1259 (1959). (1853)

Two or more batches of different fibers are continuously fed as laps over weighing devices that automatically control the rate of feed to the required amount, the laps are superposed, and the combined lap is passed to an opening machine.

CRIMPED NYLON YARN. L. H. Reyerson and L. E. Peterson (to Univ. of Minnesota). USP 2 876 524, Mar. 10, 1959. (1854)

Permanent crimp is imparted to nylon yarn by winding the yarn around a mandrel and exposing it to hydrogen chloride gas.

MECHANISM FOR FEEDING SLIVERS TO COILERS. J. R. Whitehurst (to Ideal Inds.). USP 2 878 527, Mar. 24, 1959. (1855)

FILAMENT CRIMPING APPARATUS. J. E. McMaster, T. L. Nash, F. A. Decker, Jr., and F. L. Brandau (to Am. Viscose Corp.). USP 2 878 547, Mar. 24, 1959. (1856)

A strand of potentially crimpable filaments is run through a liquid bath in relaxed condition. Excess liquid is removed and the strand is dried to set the crimp while the strand is still relaxed.

Opening, picking, fiber preparation B1

COTTON OPENING AND CLEANING MACHINE. F. M. Buresh and H. H. Langdon (to Curlator Corp.). USP 2 876 500, Mar. 10, 1959. (1857)

COTTON LINT CLEANER. E. E. Moss. USP Reissue 24 624, Mar. 31, 1959. Original No. 2 704 862, Mar. 29, 1955. (1858)

The lint is delivered in a thin bat from the gins through feeding rolls that hold the bat firmly and feed the lint to the saws in a thin uniform bat at a constant rate of speed.

Carding and combing B2

FLATS FOR CARDING ENGINES. W. R. Hindle. BP 680 445, Oct. 8, 1952. Through BCIRA 39: 1050 (1959). (1859)

The flats are made from 2 sheet-metal strips hinged together at the center down the back and provided with detachable strips for attaching the card fillet to the flat-forming strips, any one of which is replaceable when required and can be changed manually.

SUCTION FANCY FOR CARDING CYLINDERS. J. F. Miller. USP 2 878 525, Mar. 24, 1959. (1860)

Pneumatic replacement for mechanical fancy which raises the web off the main carding cylinder and transfers the web to the doffer in a continuous process.

CARDING APPARATUS. A. L. Miller, R. S. Brown, and R. A. Rusca (to U.S. Secy. Agri.). USP 2 879 549, Mar. 31, 1959. (1861)

The revolving flats are replaced by stationary granular (or abrasive) carding bars which are contoured to match the surface of the carding cylinder. Less waste, fewer neps, and greater sliver uniformity are claimed.

Drawing and roving B3

DRAFTING FRAME. E. Schäfer and A. Schüssler (to VEB Spinnereimaschinenbau). BP 807 579, Jan. 21, 1959. Through BCIRA 39: 1051 (1959). (1862)

The fiber is drafted between an apron and a lower plate that can be raised or lowered by a loading device to adjust the contact between them. Two or more such units are mounted in line on a slope, and the plates are mounted on a common arm attached to a support bar that runs the whole length of the frame.

SPEED CONTROL MECHANISM FOR DRAFTING ROLLS. Deutscher Spinnereimaschinenbau and Schubert & Salzer Maschinenfabrik AG. BP 808 190, Jan. 28, 1959. Summary in BCIRA 39: 1052 (1959). (1863)

Automatic means for regulating the speed of front drafting rollers in accordance with variations in thickness of a lap or sliver.

APRON TYPE DRAFTING FRAME. Nazionale Cogne SpA. BP 808 808, Feb. 11, 1959. Through BCIRA 39: 1260 (1959). (1864)

Device for tensioning the apron of a drafting system, comprises a U-shaped bracket with slots in its two arms for mounting the tensioning roller in adjustable positions. The bracket has a slideway by means of which it can be adjusted in position on a fixed shaft.

SLIVER COILER. J. P. Hansen (to So. States Equipment Corp.). USP 2 876 502, Mar. 10, 1959. (1865)

Means for adjusting the pressure which the coiler head rolls exert on the sliver to prevent unevenness while allowing the maximum amount of sliver to be deposited in the coiler can.

SLIVER CAN. R. M. Stephens (to Dan River Mills). USP 2 877 505, Mar. 17, 1959. (1866)

A telescoping extension is provided at the top of the sliver can to reduce tangling and permit increased packing.

SLIVER PROCESSING APPARATUS. J. H. Selby (to Warner & Swasey Co.). USP 2 878 528, Mar. 24, 1959. (1867)

Trumpet for condensing a weblike sliver and for guiding the sliver to a coiler head.

ROVING FLYER HEAD CONDENSER. H. M. Bacon. USP 2 878 637, Mar. 24, 1959. (1868)

Condenser for introducing a false twist in the roving between the nip of the delivery rolls and the flyer head.

Spinning, winding, twisting B4

MAGNETIC RING FOR RING SPINNING AND TWISTING MACHINES. J. I. Meldrum (to Courtaulds Ltd). BP 807 964, Jan. 28, 1959. Summary in BCIRA 39: 1053 (1959). (1869)

APPARATUS FOR JOINTLY WINDING SEVERAL THREADS IN PREPARATION FOR PLYING. Barmer Maschinenfabrik AG. BP 808 586, Feb. 4, 1959. Summary in BCIRA 39: 1288 (1959). (1870)

YARN MOISTENER FOR DOWN TWISTERS. H. B. Miller and E. J. Brouthers (to Universal Winding Co.). USP 2 876 614, Mar. 10, 1959. (1871)

Attachment for down twister for impregnating yarn with water or other liquids during the twisting operation.

DIRECT DRIVE SPINDLE SPINNING MACHINES. W. Leutert (to Brematex). BP 808 595, Feb. 4, 1959. Through BCIRA 39: 1261 (1959). (1872)

Means for coupling sections of driving shaft together, particularly for spinning frames in which the spindles are driven directly from the shaft through worm and worm wheel mechanism.

EXPERIMENTAL SPINNING FRAME. SKF Kugellagerfabriken GmbH. BP 808 857, Feb. 11, 1959. Through BCIRA 39: 1262 (1959). (1873)

In a test spinning frame, on which the drafts and the roller speeds can be varied at will during spinning, and the irregularity of the roving and yarn can be measured, the drafting system has 3 pairs of rollers and the drive is through 3 gears. The first gear provides for variations in the speeds of the delivery, feed and intermediate rollers, the second gear for changes in feed and intermediate rollers, and the third gear for changes in the intermediate rollers only. Alternatively, there might be 4 gears, providing for driving bottom rollers at different speeds. This would enable 2 bottom rollers to function as a condenser zone without draft. Magnetic recording tape is used to transmit indications of irregularity, as the entering and drafted roving passes two measuring points, to appropriate recording instruments.

BROKEN STRAND INDICATOR. J. Turner. USP 2 876 615, Mar. 10, 1959. (1874)

TWISTER FOR PRODUCING VARIABLE TWIST CARPET YARN. E. K. Austin, Jr., and R. T. Reid (to James Lees & Sons Co.). USP 2 876 616, Mar. 10, 1959. (1875)

Mechanism for converting a conventional twister into a machine for producing varying twist yarn.

LATCH-TYPE PENDULOUS BOBBIN HOLDER. G. S. Spencer (to Bendix Aviation Corp.). USP 2 876 962, Mar. 10, 1959. (1876)

SLUB YARN PRODUCING ATTACHMENT FOR SPINNING FRAMES. R. D. Heffelfinger (to Am. Viscose Corp.). USP 2 879 550, Mar. 31, 1959. (1877)

The device varies the rotational speed of the spinning frame feed rolls by means of intermittently accelerated ratchet wheels which remain stationary between accelerations.

DRAFTING APPARATUS FOR SPINNING MACHINES. W. A. Hunter (to T. M. M. (Research) Ltd). USP 2 879 551, Mar. 31, 1959. (1878)

Nonrotating condenser for imparting an arcuate cross-section to the fiber strand.

SPINDLE IDLER MECHANISM. O. E. Butcher (to William Kenyon & Sons Inc.). USP 2 879 639, Mar. 31, 1959. (1879)

The idler mechanism can be selectively operated to permit the driving belt to continue operation while one or more of the spindles is stopped for repairs.

ADJUSTABLE CREEL ASSEMBLY FOR TWISTING AND SPINNING FRAMES. W. W. Hewitt (to Parks-Cramer Co.). USP 2 880 024, Mar. 31, 1959. (1880)

Yarns B5

MANUFACTURE OF COMPOSITE BOUCLE VISCOSE YARN. E. E. Tallis and E. V. Reeves (to Courtaulds Ltd). BP 808 137, Jan. 28, 1959. Through BCIRA 39: 1030 (1959). (1881)

A freshly spun viscose core yarn is fed downwards at an angle not exceeding 10° to the vertical into the funnel of a centrifugal spinning box and a second viscose yarn is fed into the same box at a faster rate and at an angle of at least 30°, the second yarn wrapping itself around the core before they enter the funnel.

NOVELTY VISCOSE YARN. W. M. Lohr and A. Lulay (to E. I. du Pont de Nemours & Co.). USP 2 878 548, Mar. 24, 1959. (1882)

Crinkled, nubby, continuous yarn in which the crinkles are concentrated in the nubs.

CONTROL SYSTEM FOR SLUB YARN APPARATUS. J. W. Hicks, Jr. and P. N. Smith (to Deering Milliken Research Corp.). USP 2 878 636, Mar. 24, 1959. (1883)

FABRIC PRODUCTION C

BRAIDING APPARATUS. J. Leimbach and A. C. S. Paas. USP 2 879 687, Mar. 31, 1959. (1884)

Apparatus for continuously forming a single braid from a pair of braids.

Warping, slashing, yarn preparation C1

WAXING DEVICE. H. G. Butterworth (to Thomas Holt Ltd). BP 808 067, Jan. 28, 1959. Through BCIRA 39: 1068 (1959). (1885)

The invention is designed to overcome the difficulties associated with waxing devices on winding machines in which the yarn passes between a disc of wax and the base that supports the spindle on which the disc rotates.

THREAD TENSIONING DEVICE. E. E. Jakeman (to Brit. Nylon Spinners Ltd). BP 808 133, Jan. 28, 1959. Through BCIRA 39: 1067 (1959). (1886)

Device for putting gradually increasing tension on a running yarn consists essentially of a tray with a sintered alumina surface and sintered alumina cylinders placed in increasing number across the run between vertical spacing pins.

PROTECTIVE SEPARATOR FOR CONE-BOBBINS STACKED FOR SHIPPING. H. Schmidt (to J. P. Bemberg AG). USP 2 876 898, Mar. 10, 1959. (1887)

COP WINDER. J. K. P. Mackie (to J. Mackie & Sons Ltd). BP 808 626, Feb. 11, 1959. Through BCIRA 39: 1286 (1959). (1888)

Automatic winder for winding successive cops on one and the same spindle.

RESIN IMPREGNATED PAPER PIRN. T. G. Crawford (to Westinghouse Elec. Corp.). USP 2 879 010, Mar. 24, 1959. (1889)

The pirn is composed of a thin-walled, lightweight tube of laminated paper treated with a phenolic resin.

WARP KNOTTING DEVICE AND METHOD. A. Altenweger (to Zellweger AG). USP 2 879 095, Mar. 24, 1959. (1890)

Weaving C2

WEAVER'S KNOT. C. R. Smith (to Mellor Bromley & Co. Ltd). BP 807 613, Jan. 21, 1959. Through BCIRA 39: 1069 (1959). (1891)

The knot has 4 free ends of yarn, 2 belonging to a short piece cut from one of the yarns and wedged in an open loop of the other yarn. The knot is made on a modified Boyce knotter which draws 2 closed loops in one of the yarns and an open loop in the other, pulls the second closed loop through the open loop, tightens the loops and cuts off the protruding part of the second closed loop.

REED HOOK. H. F. J. Wareham. BP 807 864, Jan. 21, 1959. Through BCIRA 39: 1071 (1959). (1892)

The tool has a sliding and a nonsliding blade, means for adjusting the width between them, and a locking device for holding the sliding blade firmly when required. It is claimed to prevent eye strain and make threading of the reed much quicker.

STEEL WIRE HEDDLE EYE. Deutsche Gold und Silber Scheideanstalt. BP 807 945, Jan. 28, 1959. Through BCIRA 39: 1070 (1959). (1893)

The eye of a steel wire heddle is formed of an oxide of high melting point (Be, Zr, Th, Ti, Al) consolidated by sintering. The material may be applied as a lining to the steel eye or soldered on as a prefabricated insert.

CROSS-GAUZE FABRIC WEAVING. W. Maritano (Italy). BP 808 084, Jan. 28, 1959. Through BCIRA 39: 1072 (1959). (1894)

In the weaving of leno fabrics (of the types called cross-gauze or English cross-gauze) two straight heddle frames are used one of which is made to move both to and fro and up and down and is also given an alternately reversed movement in a transverse direction, the other frame being given the same combination of two movements or the vertical movement only. The movements are effected in a predetermined order according to pattern.

VARIABLE SPEED DRIVE FOR WARP LETOFF. G. E. Clentimack (to Draper Corp.). USP 2 878 839, Mar. 24, 1959. (1895)

WARP STOP MOTION. A. Bracewell (to Graham Bracewell Ltd). BP 808 359, Feb. 4, 1959. Through BCIRA 39: 1291 (1959). (1896)

Means for supporting the contact bar of an electrical warp stop motion with its front and rear faces inclined by 4-8° to the vertical, so that it can be used with mechanical dropping pins. Two brackets are used, each with an inclined slot for the ends of the bars.

SHUTTLE. D. D. McGregor (to McGregor & Balfour Ltd). BP 808 371, Feb. 4, 1959. Through BCIRA 39: 1290 (1959). (1897)

The internal side walls of the cop cavity in an open-top shuttle are grooved to present a series of ridges with alternate vertical and inclined flanks but blunt tops to hold the cop in place and prevent ballooning of the weft without the use of bristles. If bristles are desired they may be set in bunches in the bottom of selected grooves.

RIBBON LOOM WITH FIXED WEFT BOBBINS. J. Müller. BP 808 741, Feb. 11, 1959. Through BCIRA 39: 1289 (1959). (1898)

Ribbon loom, in which a rotary looping member bears a bobbin with the catch thread and the weft is drawn from a fixed bobbin into the warp by a picking member and looped around the catch thread by means of a notch in the periphery of the looping member.

PICKER STICK CHECK. A. H. Smart. USP 2 876 803, Mar. 10, 1959. (1899)

The check includes a torsion spring actuated drum for maintaining the parallel shoe in proper engagement with the parallel base.

PICKER STICK GUIDE. J. W. Chiles. USP 2 876 804, Mar. 10, 1959. (1900)

Picker stick guide and slot so constructed that ejected bobbins will fall freely into the receptacle provided for spent bobbins.

HARNESS FRAME. I. Maruyama (Japan). USP 2 877 803, Mar. 17, 1959. (1901)

The frame consists of an outer frame permanently fixed to the loom and a removable inner frame for supporting the heddles.

JACQUARD MECHANISM FOR CARPET LOOM. T. A. Doyle (to C. H. Masland & Sons). USP 2 879 805, Mar. 31, 1959. (1902)

Jacquard mechanism for producing a carpet in which the pile is carried through to the back.

HARNESS FRAME. F. H. Kaufmann (to Steel Heddle Mfg. Co.). USP 2 879 806, Mar. 31, 1959. (1903)

Means for reducing the wear on the end portions of the heddle supporting rods and at the ends of the slots in the end struts of the frame, through which the heddle rod ends pass.

PICKER STICK CHECK. R. L. Carroll. USP 2 878 840, Mar. 24, 1959. (1904)

Knitting C3

CIRCULAR MULTIFEED HOSIERY MACHINE. G. E. Hart and H. F. Metcalf (to Carolina Knitting Mach. Corp.). USP Reissue 24 616, Mar. 10, 1959. Original No. 2 785 553, Mar. 19, 1957. (1905)

The auxiliary feeding station has a throat cut in the latch ring in the same manner as that in the main feeding station, so that during reciprocating knitting a smooth inner race is provided for the latches of the latch needles.

CAM AND JACK ARRANGEMENT FOR FLAT-BED TRANSFER KNITTING MACHINES. A. E. Prior (Australia). USP 2 877 634, Mar. 17, 1959. (1906)

The cam box and jack arrangement claimed permits the automatic transfer of selected needles from one bed to the other during a single working stroke of the cam box.

METHOD FOR CONTINUOUSLY KNITTING SEAMLESS GLOVES ON FLAT-BED KNITTING MACHINE. R. C. Powell. USP 2 877 635, Mar. 17, 1959. (1907)

WARP KNIT JERSEY FABRIC. F. L. Aibel. USP 2 878 661, Mar. 24, 1959. (1908)

The wales of the fabric are made up of contracted and elongated stitches with unknit floats inlaid in certain of the contracted stitches, and the stitches of adjacent wales connected by diagonally crossed laps.

CIRCULAR SEAMLESS HOSIERY MACHINE. A. P. Saunders (to Wildt & Co. Ltd). USP 2 879 652, Mar. 31, 1959. (1909)

Machine for making socks with a turnover top patterned by a wrap thread.

KNIT ARMORED UNDERGARMENT. A. M. Evans (to Duofold Inc.). USP 2 879 654, Mar. 31, 1959. (1910)

The undergarment is made of two layers of knit fabrics, the inner layer composed of inelastic yarn and the outer of high tenacity yarn, the two layers being united only at spaced walewise and coursewise intervals.

Fabrics C4

APPARATUS FOR THE MANUFACTURE OF A FLEXIBLE SHEET OF PLASTIC REINFORCED WITH ROVING OR THREADS. P. G. E. A. Vanlaer (France). BP 808 433, Feb. 4, 1959. Summary in BCIRA 39: 1293 (1959). (1911)

MANUFACTURE OF PAPER FROM CHEMICALLY BONDED SYNTHETIC FIBERS. J. K. Hubbard and F. H. Koontz (to E. I. du Pont de Nemours & Co.). USP 2 869 973, Jan. 20, 1959. (1912)

WOVEN GLASS FABRICS FOR REINFORCED PLASTICS. M. Leclere (France). BP 808 065, Jan. 28, 1959. Through BCIRA 39: 1073 (1959). (1913)

The main yarns, of untwisted glass filaments, are laid down without interlacing and thinner auxiliary warps and wefts (which may be of twisted or untwisted glass filaments) are inserted as binding yarns in such a way that the main yarns are not undulated.

TUFTED PILE CARPET. T. T. Janney and A. Klein (to James Lees & Sons Co.). USP 2 876 525, Mar. 10, 1959. (1914)

Patterned effects consisting of loop and cut piles are produced in a single operation.

ELASTIC FABRIC. J. Verreault (to Dominion Corset Co. Ltd). USP 2 876 805, Mar. 10, 1959. (1915)

Elastic fabric with a series of multi-strand elastic yarns which cooperate to prevent slippage of the composite elastic yarns within the fabric even though certain of the elastic strands within the yarn have been severed.

IMPREGNATING APPARATUS FOR NONWOVEN FABRICS. V. L. Payne (to West Point Mfg. Co.). USP 2 877 739, Mar. 17, 1959. (1916)

APPARATUS FOR MAKING NONWOVEN WEBS. M. F. Kilty, Jr. USP 2 878 526, Mar. 24, 1959. (1917)

Uniform, strong, porous nonwoven webs are produced by the use of a high velocity air jet for propelling the fibers onto an endless bed.

TUFTING MACHINE. W. Jackson. USP 2 878 763, Mar. 24, 1959. (1918)

Machine in which the tension of the yarn may be varied to produce tufts of different heights in accordance with a predetermined pattern.

FLEXIBLE HINGES FOR PAPERMAKERS FELTS. T. Hindle (England). USP 2 879 580, Mar. 31, 1959. (1919)

The webbing to which the clips are attached in the flexible hinge construction consists of a narrow woven fabric tapered in thickness, so that the selvage receiving the clips is of three or more layers and the selvage facing the body of the felt is of one layer only.

CONTINUOUS BIAS CONSTRUCTED GLASS FABRIC. W. W. Evans, L. E. Oliver, and C. R. Ronnquist (to Exeter Mfg. Co.). USP 2 879 581, Mar. 31, 1959. (1920)

Woven, tubular glass fabric is treated with a bonding agent to prevent the slipping of crossed filling and warp yarn, and is then cut along a continuous helical path at an angle of 45° to the axis of the tube.

TUFTING IMPLEMENT FOR PRODUCING HIGH AND LOW PILE. M. L. Ward and L. Teal (to Callaway Mills Co.). USP 2 879 731, Mar. 31, 1959. (1921)

Yarn feed mechanism for single needle tufting implement which feeds the yarn at different rates of feed to form pile of different heights.

WASHABLE NONWOVEN FABRIC. A. H. Drelich and H. W. Griswold (to Chicopee Mfg. Corp.). USP 2 880 111, 2 880 112, and 2 880 113, Mar. 31, 1959. (1922)

Washable, strong nonwoven fabrics possessing textile-like softness and drape are obtained by the use of a washable binding agent distributed in a predetermined pattern at closely spaced, intermittent intervals. Binder-containing areas may be in the form of circles, squares, rods, etc.

FINISHING AND CHEMICAL PROCESSING D

Chemical processes D1

WATERPROOFING AGENTS. Boehme Fettchemie GmbH. BP 807 904, Jan. 21, 1959. Through BCIRA 39: 1123 (1959). (1923)

The agents are solutions of organic metallic complex compounds obtained by the interaction of basic polyvalent metal salts (e.g. basic Cr and Al chlorides) with the acid phosphoric esters of C_{12}-C_{18} alcohols in the presence of methyl alcohol.

WET PROCESSING APPARATUS FOR TEXTILES IN WEB FORM. R. Holzhauer (Germany). BP 808 195, Jan. 28, 1959. Through BCIRA 39: 1124 (1959). (1924)

The invention relates to apparatus in which cloth is submitted continuously to a relatively slow process. The main object is to secure that a maximum amount of cloth is in an apparatus that occupies minimum space. The cloth is folded down on an endless conveyor in a vertical boxlike part of the apparatus. This conveyor turns the corner into a horizontal tunnel-like section where a second conveyor carries the cloth forward in edgewise folds. Then another conveyor turns the corner into a vertical section where the folds are opened out, and the cloth is carried over rollers in open festoons to the exit.

IMPROVEMENT OF POLYESTERS. Farbwerke Hoechst AG. BP 808 558, Feb. 4, 1959. Through BCIRA 39: 1257 (1959). (1925)

To render fibers, yarns, or fabrics of the Terylene type antistatic and resistant to water and dirt, the material is treated with a hot solution of tannin or a related polyhydric phenol, followed by a 1:2-ethyleneimide or a 1:2-ethyleneurea containing a 6-12C alkyl group. The tanning action may be fixed by means of tartar emetic, and the following treatment may be carried out in the presence of a methylol compound or a polymerizable silicone. The final condensation is completed by dry heat.

STABILIZING ACID-ACTIVATED CHLORITE SOLUTIONS. E. Dörfel (to Elektrochemische Werke München AG). BP 808 669, Feb. 11, 1959. Through BCIRA 39: 1335 (1959). (1926)

Acid-activated bleach liquors are stabilized by the addition of an alkali formate (Na, K, NH_4). The use of 0.1 g sodium formate per 1. or 0.15 kg per 100 kg of material to be bleached is effective, and also reduces corrosion of the plant (Cr-Ni-Mo steel), and prevents loss of free chlorine dioxide.

SHRINKPROOFING TEXTILES. T. J. Coe (to U. S. Secy. Agri.). USP 2 869 971, Jan. 20, 1959. (1927)

Textiles virtually shrinkproof to laundering are obtained by serial exposure to the vapors of a volatile polyamine and a volatile polyepoxide in any sequence.

APPARATUS FOR COATING CONTINUOUS GLASS FIBER STRANDS. R. H. Brautigam (to Owens-Corning Fiberglas Corp.). USP 2 873 718, Feb. 17, 1959. (1928)

HYDROGEN PEROXIDE BLEACHING OF SPECIALTY HAIR FIBERS. B. K. Easton and N. Weinberg (to Food Machy. & Chem. Corp.). USP 2 875 018, Feb. 24, 1959. (1929)

Speciality hair fibers, e.g. mohair, cashmere, alpaca, and vicuna, are scoured, treated with a solution containing an iron salt and a reducing agent of an oxy acid of sulfur, washed in acid and peroxide, and subsequently bleached in mildly alkaline peroxide bath.

ENCLOSURE FOR THERMAL TREATMENT OF FABRICS. J. Dungler (Switzerland). USP 2 877 636, Mar. 17, 1959. (1930)

The apparatus provides for the continuous treatment of great lengths of fabrics in a small enclosure.

OPTICAL BRIGHTENING AGENT. R. Raue, W. Müller, J. Link, O. Weber, and V. Weber (to Farbenfabriken Bayer AG). USP 2 878 138, Mar. 17, 1959. (1931)

Water-insoluble benzocoumarin compounds are claimed as brightening agents for synthetic fibers.

FABRIC SOFTENING AGENTS. J. P. Conbere and E. M. Perry (to Arnold, Hoffman & Co.). USP 2 878 144, Mar. 17, 1959. (1932)

Quaternary ammonium salts of fatty acid esters of a polyhydroxypolyamine are claimed.

REELING OF FABRIC. W. Renery and B Lastering (to Benteler-Werke AG). USP 2 879 992, Mar. 31, 1959. (1933)

Means for continuously moving a fabric web through a wet processing chamber.

CHEMICALLY MODIFIED WOOL. J. E. Moore (to U.S. Secy. Agri.). USP 2 880 054, Mar. 31, 1959. (1934)

Wool with improved properties, e.g. shrinkfastness and acid and alkali resistance, is obtained by treatment with organic diisocyanates in the presence of a tertiary amine.

REDUCING THE CHEMICAL DEGRADATION OF WOOL. G. Thomson, C. G. Cook, and P. M. Pepin (to Fabric Research Labs.). USP 2 880 055, Mar. 31, 1959. (1935)

The degradation of wool under acidic, oxidizing, or reducing conditions is materially reduced by treatment with acrolein.

WATERPROOFING COATING COMPOSITION AND METHOD. R. Aenishaenslin and A. Maeder (to Ciba Ltd). USP 2 879 181, Mar. 24, 1959. (1936)

STABILIZING TUBULAR KNIT FABRIC. J. Cohn and E. Cohn (to Samcoe Holding Corp.). USP 2 880 114, Mar. 31, 1959. (1937)

The fabric is spread to its desired width, preset by heat and pressure, resin impregnated, and cured to effect dimensional stability.

Dyeing and printing D2

FAST YELLOW DYEINGS ON POLYESTERS. Farbwerke Hoechst AG. BP 808 174, Jan. 28, 1959. Through BCIRA 39: 1119 (1959). (1938)

Fast yellow dyeings on materials of the Terylene type are given by solutions or suspensions of 4-hydroxy-1: 1'-azobenzenes carrying as optional substituents in the phenolic nucleus Cl or a lower alkyl or alkoxy group having at most 4 C atoms, and in the other nucleus similar substituents or $-CF_3$ or an aldehyde group.

VAT DYEING PROCESS. Neder. Org. voor Toegepast-natuurwetenschappelijk. BP 808 219, Jan. 28, 1959. Through BCIRA 39: 1118 (1959). (1939)

In a continuous vat dyeing process, the cloth is wetted (foularded) with a liquor (at room temperature) comprising water, the nonreduced dye, a reducing agent (hydrosulfite), caustic soda, and such an amount of formaldehyde that the absolute potential of the bath is lower, at room temperature, but higher at 100° C, than the leuco-potential of the dye alone in the same concentration; the cloth is then steamed and the leuco-dye is reoxidized.

ICE COLORS. Farbenfabriken Bayer AG. BP 808 262, Jan. 28, 1959. Through BCIRA 39: 1120 (1959). (1940)

A diazotized, weakly negatively substituted aniline is combined with 2-carboxy-5-nitrophenylaminoacetic acid and the diazoamino compound is mixed with an ice color coupling component. The fabric is padded or printed with the liquor and the dye is developed by neutral steam.

FAST DYEING OF NITROGENOUS FIBERS WITH METALIZED AZO DYES AND ACID MILLING DYES. Sandoz Ltd. BP 808 647, Feb. 11, 1959. Summary in BCIRA 39: 1336 (1959). (1941)

DYEING POLYESTER AND CELLULOSE TRIACETATE FIBERS. Farbenfabriken Bayer AG. BP 808 948, Feb. 11, 1959. Through BCIRA 39: 1337 (1959). (1942)

Materials of the Terylene and cellulose triacetate types are dyed with disperse dyes in the presence of the methyl ester of o-, m-, or p-cresotic acid.

BUTYL BENZOATE AS A DYEING ASSISTANT FOR DISPERSE CELLULOSE ACETATE DYES. F. Fortess and J. Rudy (to Celanese Corp.). USP 2 880 050, Mar. 31, 1959. (1943)

IMPROVING THE DYEING PROPERTIES OF POLYETHYLENE TEREPHTHALATE FIBERS. Vereinigte Glanzstoff Fabriken AG. BP 808 967, Feb. 11, 1959. (Addition to BP 805 525). Through BCIRA 39: 1338 (1959). (1944)

Materials of the Terylene type are treated for dyeing with a hot emulsion of chloroform, trichloroethylene, dichlorobutane, tetrachlorobutane, sym.-dichloroethylene, 1,2-dichloroethane, or pentachloroethane.

DYEING KERATIN FIBERS. P. F. Rosmarin and M. Pantzer (to Apod Corp.). USP 2 875 769, Mar. 3, 1959. (1945)

Dyeings fast to light and washing are obtained by allowing hydroquinone and dihydroxyphenylalanine to react with one another in an alkaline aqueous medium.

METHOD OF PRINTING PHOTOGRAVURE ENGRAVINGS ON FABRIC. G. H. Wood, Jr., C. E. Neale, and R. E. Hawes (to Apponaug Co.). USP 2 878 096, Mar. 17, 1959. (1946)

Conventional textile roller equipment is used for printing roto or photogravure engravings on cloth and obtaining the same fine details and tone effects as on paper.

GAS FADING RESISTANT CELLULOSE ACETATE TEXTILES. L. J. Rosen and F. Fortess (to Celanese Corp.). USP 2 880 051, Mar. 31, 1959. (1947)

Gas fading resistance is improved by incorporating in the fabric an alkaline salt of a copolymer of an alkyl vinyl ether and an ethylene carboxylic acid.

DISPERSE DYED CELLULOSE ACETATE WITH IMPROVED WASHFASTNESS. A. B. Conciatori, F. Fortess, and V. S. Salvin (to Celanese Corp.). USP 2 880 052, Mar. 31, 1959. (1948)

Disperse dyed cellulose acetate fabrics with improved washfastness are obtained by aftertreatment with a soluble, heat-curable amidogen formaldehyde.

Mechanical processes D3

TEXTILE FOLDING OR RIGGING MACHINE. J. Midgley, H. Charlesworth, and G. W. Baxter (to William Whiteley & Sons Ltd). BP 808 699 and 808 700, Feb. 11, 1959. Through BCIRA 39: 1344 (1959). (1949)

A rigging machine is fitted with a control member, pivoted to the rigging bars or other stationary part and engageable by one or both of the selvages, so that if these are not in line the member is displaced and operates an electric clutch through which a motor actuates a centralizing belt that engages the cloth along its midline. The machine is also fitted with selvage drags to prevent bowing of the weft.

NAPPING MACHINE DRIVE. W. Miessen (to A. Monforts AG). USP 2 876 523, Mar. 10, 1959. (1950)

The rotary speeds of the napping rollers are varied by means of external gears instead of by friction rings or belt drives.

HEAT SETTING BLENDED POLYVINYL CHLORIDE/CELLULOSE ACETATE FIBERS. E. M. Diss and R. R. Walker (to Dow Chem. Co.). USP 2 877 084, Mar. 10, 1959. (1951)

Fibers with increased heat stability are obtained, without loss of tenacity or darkening, by first heating the relaxed fibers in air at 125 to 150° C to effect a shrinkage of not more than 5%, and then heating them in a nonsolvent medium at 90 to 105° C to effect an additional shrinkage of not more than 15%.

Drying, setting, conditioning D4

APPARATUS FOR DRYING YARN PACKAGES. M. F. Gordon and W. S. H. McKee (to Linen Thread Co. Ltd). BP 807 794, Jan. 21, 1959. Through BCIRA 39: 1126 (1959). (1952)

The packages are mounted on perforated spigots protruding from a hollow, creel-like box on wheels, forming a mobile unit that can be run on rails into a stationary hot air chamber. In this chamber the box is coupled to a source of hot air (fan and heating device), and the air is blown through the spigots and out through the packages.

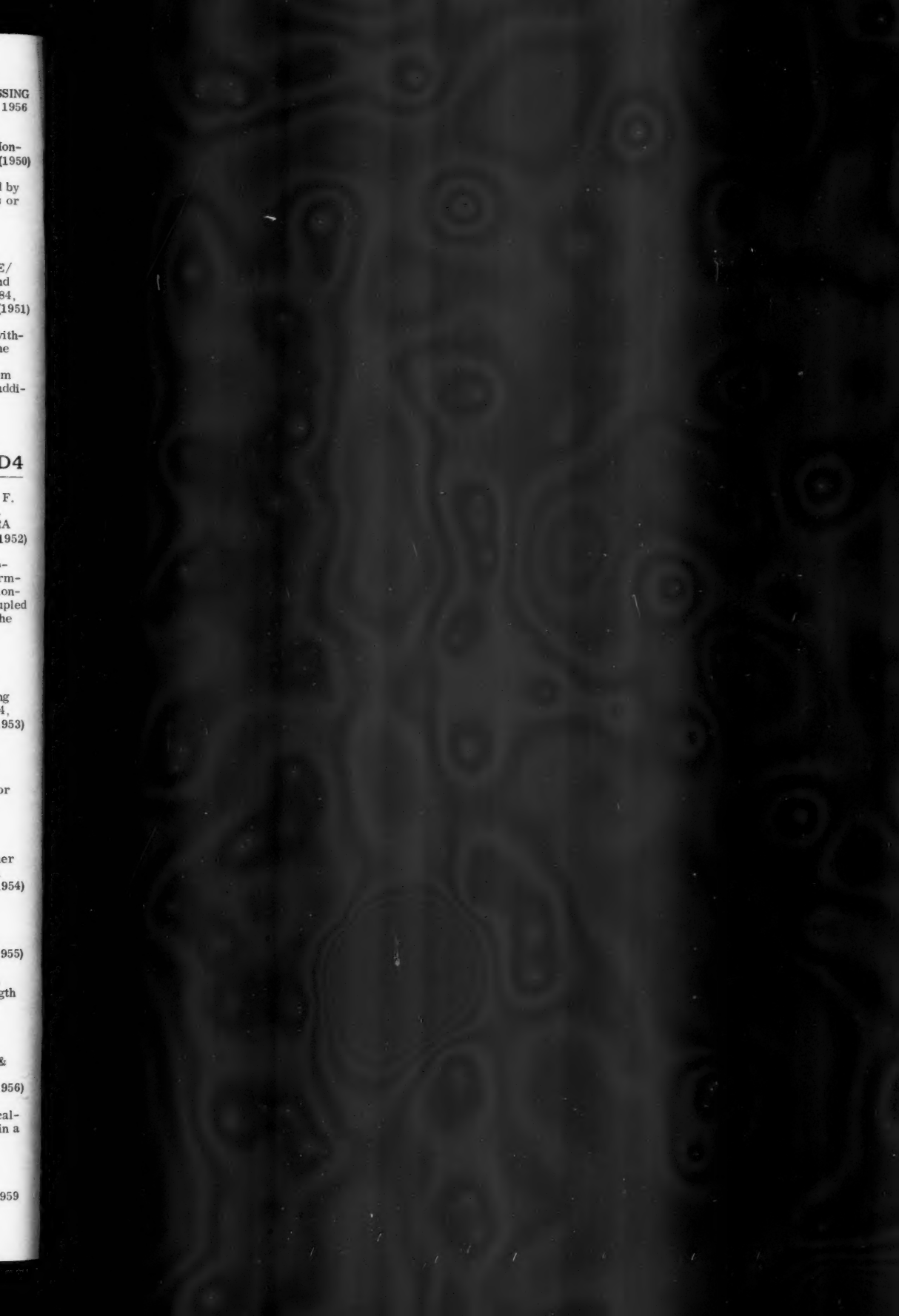
ROTATABLE DRYING CYLINDER. A. E. Armstrong (to Armstrong Mach. Works). BP 808 303, Feb. 4, 1959. Through BCIRA 39: 1343 (1959). (1953)

The invention relates to a combination of rotating siphon tube and scoop for removing condensate from the interior of a steam-heated drying cylinder. The device is effective at various speeds and over a major part of each revolution.

TENTER CLIP FOR PLASTIC WEBS. P. T. Kaestner (to Olin Mathieson Chem. Corp.). USP 2 878 546, Mar. 24, 1959. (1954)

YIELDABLE TENTER FRAME SUPPORT. J. Kirkpatrick. USP 2 879 579, Mar. 31, 1959. (1955)

The frame rods are so constructed that their tension may be adjusted in accordance with the tensile strength of the fabric being processed.

SIEVE-DRUM TYPE DRYER. H. Fleissner, G. Fleissner, and K. Offenbach (to Firma Fleissner & Sohn Maschinenfabrik). USP 2 879 607, Mar. 31, 1959. (1956)

By the use of a blower in a casing with two diametrically opposed air outlet openings, high drying capacity in a limited space is achieved.